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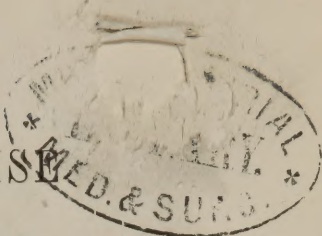
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A

PRACTICAL TREATISE



ON

INFLAMMATION OF THE UTERUS,

ITS CERVIX AND APPENDAGES,

AND

ON ITS CONNECTION WITH OTHER UTERINE DISEASES.

BY

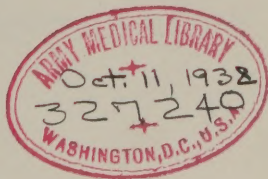
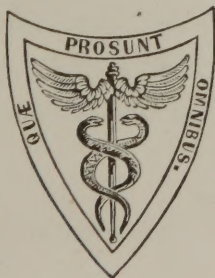
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NOTRE DAME DE LA PITIE, AND LA SALPETRIERE, PARIS, ETC.

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## PREFACE TO THE FOURTH EDITION.

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It was my intention to have extended this work, and to have made it a complete treatise on Uterine Pathology. I had, indeed, commenced a series of preparatory labors in this direction, when my professional career was arrested by severe and prolonged illness. As the leisure of an invalid is not employed profitably to himself in arduous literary undertakings, my first intention was abandoned, and I determined to confine myself to the preparation of a new and carefully revised edition. During the past two years this revision of former labors has been my principal occupation, and in its present state the work may be considered to embody the matured experience of the many years I have devoted to the study of uterine disease.

Improving health leads me to hope that I may yet acquire additional experience on the subjects which have so long occupied my thoughts. Should such, however, not be the case, I can only hope that this work, in its present state, with all its shortcomings and imperfections, may long be of use in furthering the cause of humanity and science, an object which has ever been uppermost in my mind.

*October, 1861.*

60, GROSVENOR STREET, THE FERNS, WEYBRIDGE,	} <i>May to October.</i>
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## PREFACE TO THE THIRD EDITION.

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IN preparing the Third Edition of this work for publication, I have carefully revised it, and have made various additions, which will, I trust, render it more complete. I have also slightly altered the arrangement of the chapters, with a view to improve the general plan.

Within the last few years, the doctrines which I have advocated in the previous editions have made great progress, and have been adopted by a large, intellectual, and influential section of the medical profession at home, as also by many practitioners in our colonies. I have, indeed, received the most gratifying and satisfactory testimonies of adhesion and approbation from the most distant parts of the globe, the result of actual investigation of the subject.

I may likewise add, as evidence of the growing importance which is everywhere attached to this department of pathology, that both editions of the work have been republished in America,<sup>1</sup> that the first has been translated into German, and the second into French.

Under such circumstances, I may certainly be allowed to pass unnoticed the "opposition" which I have met with. Believing thoroughly in the correctness of the facts and doctrines which I have advanced, I shall henceforth leave them in the hands of the profession, under the conviction that eventually they must and will be adopted and acted upon by the entire medical community.

60, GROSVENOR STREET,  
*November, 1852.*

<sup>1</sup> The American Edition has been republished five times (1861).





## PREFACE TO THE SECOND EDITION.

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THE present treatise has been for some time out of print, owing to the favorable reception which it received from the profession. The delay in the publication of the second edition originated in my wish to give a complete history of inflammation, in all the organs and tissues which constitute the uterine system, as elucidated by the application of physical investigation to the study of uterine diseases.

This I have at length accomplished; and although nominally a second edition, the present is in reality a new work. It will be found to contain, not only a faithful history of the various pathological changes produced by inflammation in the uterus and its annexed organs in the different phases of female life, but also an accurate analysis of the influence exercised by inflammation in the production of the various morbid conditions of the uterine system, hitherto described and treated as functional.

Guided by the clinical observation of the last twelve years—during which period I have constantly studied uterine disease in wide fields, and with the advantage of more accurate means of investigation than those generally employed—I have endeavored to demonstrate the important fact, that inflammation is the keystone to by far the greater part of the morbid conditions which constitute uterine pathology, and that unless the phenomena which it occasions be recognized and taken into consideration, all is doubt, obscurity, and deception.

The results at which I have arrived, and which are embodied in the following pages, are so diametrically opposed to the opinions current in the profession, as reproduced by the most recent and the most

classical writers on uterine pathology, that they must appear startling even to practitioners acquainted with the researches of Continental inquiry in this important branch of medical science. So thoroughly subversive, indeed, are they of all existing views respecting uterine disease, that nothing but the facility with which they can be tested could inspire me with the hope that they will, ere long, be universally acknowledged and adopted.

The diseases in question are amongst those to which females are most commonly exposed; and proofs of this fact may be found by any practitioner in the daily routine of his professional duties. To test the value of my assertions, he has merely to examine his patients. It must, at the same time, be borne in mind, that no one who does not set aside for the moment all previously formed pathological opinions, and impartially examine the cases in which the symptoms I have described are present, is competent to offer even an opinion on the subject.

Since the first publication of my researches in uterine pathology, above four years ago, a marked change has taken place in the opinions of a large portion of the profession—a change which may fairly be attributed, in a great measure, to the influence exercised by my writings. Several of the most eminent uterine pathologists of the present day—amongst whom I may name Dr. Montgomery<sup>1</sup> and Dr. Evory Kennedy<sup>2</sup>—have since then openly advocated views similar to those which I entertain respecting the frequency of inflammatory affections of the neck of the uterus. Moreover, I am able to state, from positive knowledge, that the practice of nearly all the eminent consulting practitioners in this department of pathology has been greatly modified within that period, and it is but rational to infer that their theoretical opinions have undergone a similar change.

In the present work there is much that is original, and new to the profession, both abroad and at home. I would more especially direct attention to the history:—of chronic metritis and of the displacements which it occasions, of late years so erroneously viewed—of

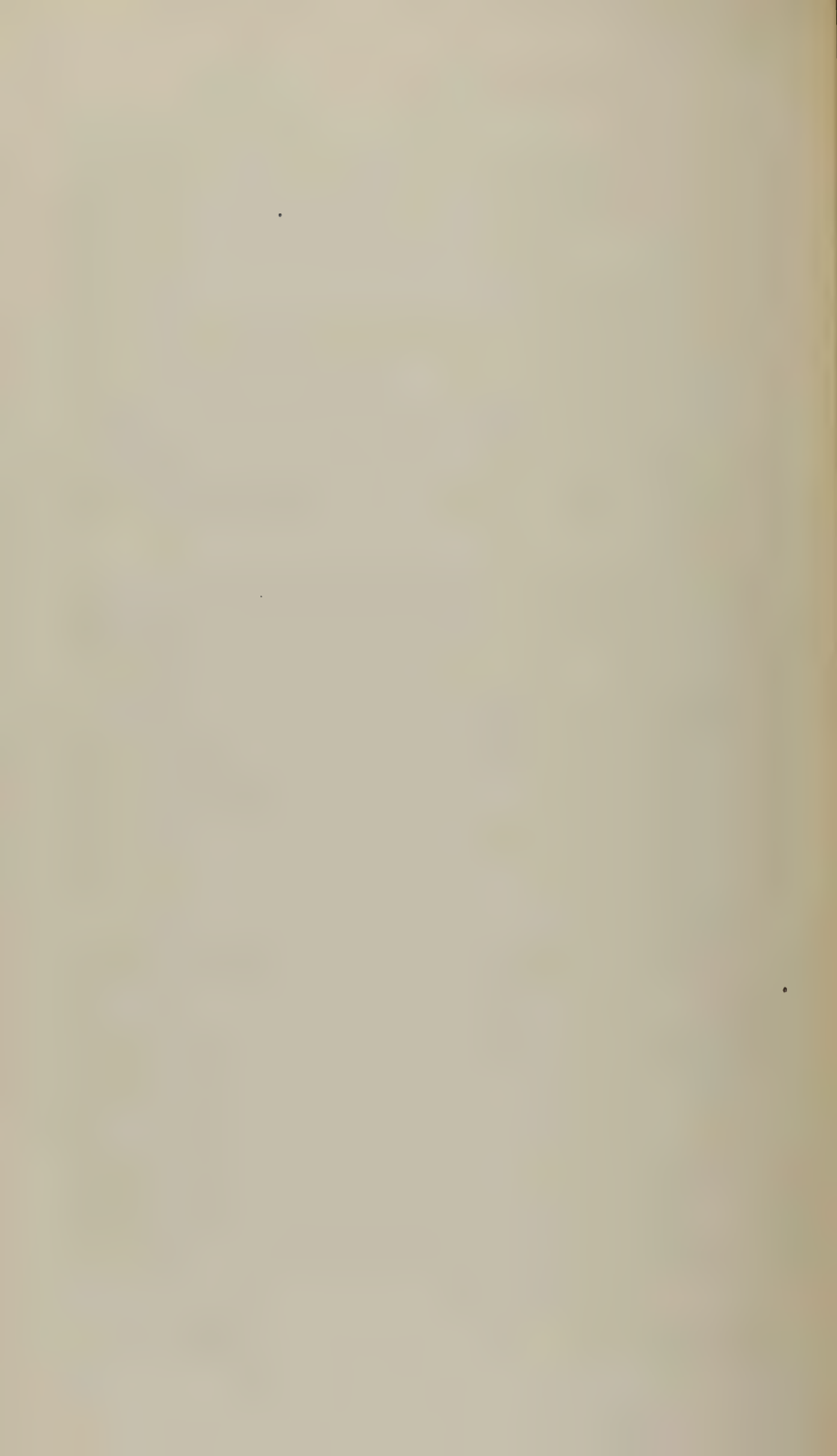
<sup>1</sup> The Dublin Quarterly Journal, August, 1846.

<sup>2</sup> Ibid., February, 1847.

internal metritis, hitherto confounded with disease of the cervical cavity—of inflammation and abscess of the lateral ligaments in the non-puerperal state, never, as yet, described by any author—of inflammation and ulceration in the cavity of the cervix—of inflammation and ulceration in the virgin, in the pregnant and puerperal condition, in the aged, and in connection with polypus and with uterine tumors; and to the section on the diagnosis of cancer. As the facts detailed in the chapters in which these subjects are discussed are, like those formerly advanced, solely deduced from clinical observation, I firmly believe that their accuracy will be likewise substantiated, in the course of time, by the unanimous verdict of the profession.

It may be considered an axiom, that when once a discovery in science or art has been clearly pointed out and demonstrated, it ought to be susceptible of easy confirmation, wherever and by whomsoever the attempt be made, provided the inquirer possess sufficient knowledge and skill to qualify him for the task which he undertakes, and provided, also, he carefully and conscientiously follow the rules and directions laid down by the discoverer. No alleged discovery that will not bear this test can be accepted as such; and no person who claims the merits of a discovery ought to object to its being applied to his assertions.

I can have no hesitation in submitting the views and opinions which I entertain respecting the pathology of uterine disease to the above test. If others, employing conscientiously, in similar cases, the same means of investigation as I have done, and as carefully as I have done, do not arrive at the same results—however contrary those results may be to the recognized opinions of ages—I will submit willingly to their repudiation of the doctrines advanced. I have, however, no fear on this score, for they are the expression of facts truly observed and faithfully reproduced, and will hold good alike in all climes, in all lands, and in all grades of social life.





## PREFACE TO THE FIRST EDITION.

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DURING my connection with the Paris hospitals, which lasted seven years (three as a pupil, and four as a resident medical functionary), owing partly to choice, and partly to fortuitous circumstances, I was the assistant of several of the physicians and surgeons of that capital who have paid the greatest attention to uterine pathology, and my attention was thus early directed to this interesting department of medical knowledge. As I generally availed myself of the privilege granted to Paris "internes" by the hospital authorities, to take private clinical pupils with them on visiting the patients intrusted to their care, I was compelled to analyze carefully the morbid phenomena of every case, so as to satisfy the inquiring disposition of men of mature age and understanding, whom alone I could take with me, owing to the peculiar nature of uterine maladies. I was thus led to perceive, that however carefully the field of uterine pathology had been investigated, there still remained much to be elucidated. One point more especially attracted my attention—viz., the nature, causes, and therapeutics of ulceration and induration of the neck of the uterus, the commonest of all uterine lesions.

On referring to the most esteemed works on uterine diseases, both French and English, I found that the data which the former contained respecting this malady were insufficient to account for the numerous modifications which I daily witnessed, whilst the latter were nearly completely barren on the subject. After much doubt and uncertainty, I at length arrived at views which appeared to me to explain much of that which had heretofore been obscure. It was not, however, until the experience of one year of one hospital had been corrected by that of other years and of other hospitals, that my ideas took the direction which is presented in the present work.

To render this statement intelligible to those who are unacquainted with the medical institutions of Paris, I may mention that that city is

remarkable for the extent and number of its special hospitals. There are immense separate hospitals for the young, the adult, and the aged, and also for the syphilitic, the scrofulous, and those affected with skin diseases. Into these the house physicians and the house surgeons (who hold their appointments for four years) are successively draughted, so that in the six or seven years during which the Paris "interne's" connection with the hospitals lasts, at first as a pupil, and subsequently as a resident functionary, disease is studied on a large scale, in very varied fields. These successive changes of the point of view from which pathology is seen, I found of the greatest possible use. Uterine disease is not the same at St. Lazare, where five hundred prostitutes, affected principally with primary syphilis, are treated, as it is at the Hôpital St. Louis, the receptacle for cutaneous syphilis and scrofula, or as at the general hospitals, where non-syphilitic patients are received. Even in the latter, great difference exists; some—such as La Pitié, being near La Maternité, where several thousand women are delivered annually, receive many patients recently discharged from that hospital; others—such as La Charité and the Hôtel Dieu—depend more on the general population; whilst in the Salpêtrière, which contains three thousand five hundred women above sixty years of age, and several hundred incurable cancerous patients, the uterine field again changes. I do not mean to say that the same forms of disease are not met with in these various establishments—for such an assertion would be erroneous—but that the proportions in which they show themselves, and often the modes of their manifestation, differ considerably.

An outline of my views on the subject of which I am about to treat, was hastily sketched and presented to the Faculty of Medicine of Paris, in the form of a thesis, on my graduating at that university. The present more elaborate essay was published in parts, in the "Lancet" of this year; and as I think the facts and views which it contains are of importance, I now reproduce them in a more extended and complete form. Under such circumstances, I cannot, certainly, be reproached with not having matured my opinions. In the first instance, they were formed after I had long enjoyed very great opportunities for seeing uterine disease. They have since been considered over and over again, and have stood the test of several years' additional experience.

Some of the views which I bring forward will, I believe, be found original—at least, if I can trust the results of my bibliographical re-

searches. I have also many details of great interest and importance to present, with reference to the various modes of *treatment* in inflammation, ulceration, and induration of the uterine neck adopted by the Paris physicians and surgeons—details which will, I believe, be new to most of my readers. Having carefully watched, during a great length of time, the effects of the treatment followed by the eminent Parisian practitioners, with whom the knowledge of this form of disease recently originated, and that under the most favorable circumstances—as their pupil or assistant—I have been able, I hope, to form a correct estimate of the comparative value of the different agents which they employ. I have thus, I am also inclined to think, learnt how to avoid the exclusiveness which most of them show in the choice of their therapeutic agents.

In Paris hospital practice, the objections which exist in England to examination by the touch or by the speculum, either are not met with, or are not allowed by those physicians and surgeons who pay special attention to uterine disease; consequently, little more difficulty is experienced in appreciating, by their means, the symptoms furnished by the uterine organs, than in resorting to any unusual means of investigation in diseases of other parts of the economy.

This being the case, the opportunities for investigating the state of the internal organs of generation in females presenting uterine symptoms must necessarily be much greater than in England, where no examination, even of a married person, is attempted by the most experienced practitioners, unless there be very serious reason for such a step, and very frequently not even then. That this laudable sense of propriety is, however, often carried much too far by the members of the medical profession with us, is well known to all who specially study uterine pathology. I might mention numerous illustrations of this fact. One alone, however, will suffice to show how frequently examination is neglected by well-informed practitioners, from false delicacy on their part, and not on that of their patients.

A few months ago, I was consulted by an unmarried female, who had presented for eight years, not a few only, but *all* the symptoms of uterine polypus. During this period she had been attended, for weeks and months at a time, by five or six different medical gentlemen, of undoubted talent and ability, not one of whom ever proposed an examination, although, from the intensity of the symptoms, they *must* have suspected the nature of her disease. This person has repeatedly told me that she would at any time have submitted to an

examination had she been requested, so great were her sufferings. Delicacy carried to such an extent becomes absolutely criminal, and, moreover, reflects discredit on the profession, the patients attributing to ignorance, as in the case alluded to, the excessive scruples of their medical attendants.

I have been often told that females in this country will not submit to treatment when afflicted with uterine disease. I can only say that I have not found this to be the case in my own practice. I have met with many objections, but never with a decided refusal, when I have stated that an examination was IMPERATIVELY NECESSARY. I am, indeed, convinced that our countrywomen, when suffering under these distressing diseases, would always submit to an examination—conducted with a due regard to their feelings—were the absolute necessity of such a step properly enforced by their medical attendant. Health and life are too valuable for every possible sacrifice not to be made when they are endangered.

It may be as well to mention here, that the cases which are interspersed throughout this work are not given to *substantiate* my opinions, but merely to *illustrate* them. There is nothing more tedious to a reader than the perusal of a long series of cases, all reproducing the same phenomena; and when the doctrinal points brought forward are deduced from plain every-day facts—which are not generally appreciated, merely because they are not sought for—it is quite unnecessary to parade a long array of cases in order to substantiate them.

LONDON, June 18, 1845.



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A PRACTICAL TREATISE  
ON  
INFLAMMATION OF THE UTERUS,  
*Its Cervix and its Appendages;*

AND ON  
ITS CONNECTION WITH OTHER UTERINE DISEASES.

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CHAPTER I.

PRELIMINARY REMARKS.

A NEW FIELD OPENED TO THE STUDY OF UTERINE DISEASE BY THE ADOPTION OF PHYSICAL MEANS OF INVESTIGATION—THE FACTS RECENTLY BROUGHT TO LIGHT PARTIALLY KNOWN TO THE ANCIENTS—THE STATE OF MEDICAL SCIENCE AND PRACTICE IN THE MIDDLE AGES THE CAUSE OF MODERN IGNORANCE OF UTERINE PATHOLOGY.

AMONG the various branches of the healing art over which light has latterly been thrown, by the application of physical means of examination to the appreciation of local symptoms and of morbid changes, uterine pathology stands preëminent. The recent adoption, by some leading continental practitioners, of careful instrumental examination in the diagnosis and treatment of diseases of the uterus, has opened an entirely new field to practice, and must lead to a complete transformation of uterine pathology, as it is now presented in the medical literature of this country.

The discovery of percussion and auscultation by Avenbrugger and Laennec, has not, indeed, produced as great a change in thoracic pathology as the application of physical examination in uterine disease is destined to produce in this important and extensive department of medical science. That I am not attributing too much weight to the results attained in uterine pathology by the discovery of improved means of diagnosis will, I feel certain, be admitted by all who carefully peruse the following pages, and who recollect that the views which they develop, although contrary to generally received opinions, are the scrupulous deduction of clinical observation alone, and not the offspring of theoretical reasoning.

To those who have studied uterine disease in the most recent and most esteemed works that have appeared in this country, the views and assertions contained in the present treatise will probably appear exaggerated; but all who take the trouble practically to test their correctness, will most certainly find that I have neither exaggerated nor misstated. The great error committed by all who have hitherto written on uterine affections, with the exception of some recent French authors, consists in their looking upon and describing inflammation of the uterus as a rare disease in the non-puerperal state; whereas, in reality, inflammation is the commonest of all the morbid manifestations of that organ, as it is of all other organs of the animal economy. As a necessary result of this error, not only is the existence of inflammation itself unsuspected and overlooked, but many morbid states which it gives rise to are also misunderstood, and generally, if not always, studied independently of their origin: among these I may mention leucorrhœa, dysmenorrhœa, menorrhagia, partial prolapsus of the uterus, general debility, &c.

At first sight it certainly does appear singular, to say the least, that a class of diseases of such every day occurrence as uterine inflammations in reality are, should have been almost totally overlooked until within the last few years, and that the symptoms which they occasion should for ages have been made the foundation for false pathological superstructures. Such, however, is the case; successive centuries have perpetuated the same errors, and that owing to causes which are easily explained, if we revert to the past history of medicine.

The uterus is an organ to which is intrusted the preservation of the species, and not of the individual of whose organization it forms a part. It has, consequently, no hourly, daily function to perform, like the brain, the lungs, the liver, the interference with which, by inflammation, necessarily gives rise to a group of decided, unmistakable symptoms. Moreover, inflammation of the non-impregnated uterus, owing to anatomical data, into which I shall presently enter at length, is generally *peripheric*, if I may use the term; it is principally confined, at its origin, to the mucous membrane covering the cervix and lining the cavity of the cervix, to the cervix itself—which is much less sensitive than the body of the uterus—to the cellular tissue lying between the peritoneal folds that constitute the lateral ligaments, and to the ovaries. It is, likewise, generally chronic when affecting the mucous surfaces mentioned, its most frequent seat. The operation of these physiological and pathological facts, combined with the concealed and central anatomical situation of the uterus itself, gives to the symptoms of the vast majority of uterine inflammatory affections a degree of obscurity which those of few other diseases present. Hence the necessity of calling to our aid, in order to form a true diagnosis, every possible means of assistance; and certainly no mode of investigation is so likely to enable us to arrive at a correct knowledge of the morbid changes which are taking place in a concealed organ as the ocular inspection of the organ itself.

That the inspection of the lower segment of the uterus is not only possible, but in most cases perfectly easy, was discovered in an early period of medical history. We continually see the uterus falling, by its own weight, or by the laxity of its means of support, or through hypertrophic elongation of the cervix, to such an extent as to merely require the separation of the labia to be seen, or as even to protrude externally. From the examination of the womb thus prolapsed to the use of some mechanical means of opening the vulva and vagina, so as to allow the eye to reach the lower uterine neck when the organ is not prolapsed, there is but a step. That step was made probably more than two thousand years ago. Although the fact is not generally known, it is nevertheless quite certain, that ocular inspection of the cervix uteri by instrumental means was known to the ancients, perhaps from the earliest times. That this means of diagnosis should have subsequently fallen into complete abeyance, along with the information obtained through its means, is a singular circumstance in the history of medicine, which can only be explained by the peculiar social conditions through which medical science has since passed.

Paulus Ægineta alludes to the *διοπτρα* in several parts of his work, as to an instrument in general use. In the section on ulceration of the uterus,<sup>1</sup> he states that the ulceration is to be detected by the dioptra; and in that on the treatment of abscesses of the womb,<sup>2</sup> there is a long account of the way in which the instrument, evidently a kind of bivalve speculum, is to be used. This well-known author lived in the seventh century, but he was more a compiler than an original writer; and, according to Mr. Adams, the learned translator and commentator of his work, this part of his description of uterine diseases is mostly taken from Aetius, who, in his turn, professes to have copied from writers who lived at a much earlier period, such as Archigenes and Asclepiades.

Not only was instrumental examination of the uterine neck known to the ancients, but they were evidently familiar with this mode of investigation. This fact is satisfactorily proved by the practical information respecting diseases of the cervix uteri which they possessed—information which they could only have acquired by the ocular demonstration afforded by the use of the speculum. Thus, in the section of Paulus Ægineta's work on "Ulceration of the Womb," to which I have alluded,<sup>3</sup> we find inflammatory ulceration of the cervix

<sup>1</sup> The Sydenham Society's edition of the works of Paulus Ægineta, vol. i. p. 624.

<sup>2</sup> *Ibid.*, vol. ii. pp. 385, 6.

<sup>3</sup> *Ibid.*, vol. i. pp. 624, 5: "The uterus is often ulcerated from difficult labor, extraction of the fœtus, or forced abortion or injury of the same, occasioned by acrid medicines, or by a defluxion, or from abscesses which have burst. If, therefore, the ulceration be within reach, it is detected by the dioptra, but if deep-seated, by the discharges; for the fluid which is discharged varies in its qualities. When the ulcer is inflamed, the discharge is small, bloody, or feculent, with great pain; but when the ulcer is foul, the discharge is in greater quantity, and ichorous, with less pain; when the ulcer is spreading, the discharge is fetid, black, attended with great pains, and other symptoms of inflammation; irritation is produced by relaxing medicines, and relief by the opposite class. When the ulcer is clean, the fluid is small in quantity,



uteri, its causes, varieties, and treatment, described at some length. The description is rather confused, it is true, but it is impossible not to recognize in it the various pathological facts which have been resuscitated these last few years. The writers were clearly acquainted with the various inflammatory lesions of the cervix uteri, which in reality constitute, as I have stated, the commonest forms of uterine disease, and must have been in the habit of guiding their treatment by the state of the cervix as revealed by the dioptra. It is thus that we find different agents recommended according as the ulceration is "clean or foul; spreading or not spreading; attended or not with inflammation." It does not appear that caustics were used, the treatment enjoined being that resorted to by the ancients in the treatment of ulcers generally, and consisting, rationally enough, in two classes of agents, emollients and astringents. The foul ulcers probably comprised cancerous ulceration of the cervix and vagina.

The assertion has recently been made, that the dioptra was only used to separate the parts at the vulvar orifice of the vagina, and that the passages of Paulus Ægineta to which I refer, merely apply to disease in that region. Such an opinion, however, will not stand the test of a careful perusal. The neck of the uterus itself is evidently referred to in the first quotation, and abscesses in the upper part of the vagina, near the cervix, in the other. That the real cervix uteri was known to the physicians, not only of that age, but of an age many centuries antecedent, is evident from the Hippocratic writings. The latter afford evidence of a very considerable amount of knowledge respecting the morbid conditions of the neck of the uterus itself. (See Aphorisms 51 and 54, section v., and the special treatises on the Diseases of Women.) Indeed, I cannot do better than quote the words of Mr. Adams, to whom the profession is also indebted for a very valuable edition of the works of Hippocrates. After giving an analysis of these treatises, he adds, "They furnish the most indubitable proof that the obstetrical art had been cultivated with most extraordinary ability at an early period. Beyond all doubt, the complaints of women, and the accidents attending parturition, must at that time have come under the jurisdiction of the *male practitioner*."

It is impossible for any one acquainted with the modern state of medical literature on this subject, to read without surprise the description of ulceration of the womb which I have extracted from Paulus Ægineta. The important facts which it sets forth, although of everyday occurrence, appear to have fallen into complete oblivion for centuries, until Recamier,<sup>1</sup> one of the present physicians to the Hôtel Dieu in Paris, fortunately for humanity, revived the use of the specu-

consistent, without smell, thick, white, with an agreeable sensation. When the ulcer is inflamed, we must use those things recommended for inflammations. When it is foul . . . . . the Egyptian ointment without the verdigris answers admirably for the cure of ulceration . . . . . when the ulcer is spreading and attended with inflammation . . . . . when the ulcer spreads and is without inflammation . . . . . when the ulcer has become clean."

<sup>1</sup> Recherches sur le Traitement du Cancer. 8vo. Paris, 1829.



lum, and by its means resuscitated the knowledge so long dormant. The late celebrated surgeon, Lisfranc, at once adopted the speculum as a means of diagnosis and treatment, and by his lectures, writings, and practice, contributed more than any other of his countrymen to establish uterine pathology on a sound practical basis. Both Recamier and Lisfranc, whilst endeavoring to connect general symptoms with local disease, merely followed in the wake of the pathologico-physiological or Broussaian school, in the days of which they lived and flourished. Their labors are certainly amongst the most valuable that we owe to this school, which, during the early part of this century, contributed so much to our positive knowledge of disease and of the anatomical changes which it produces during life in the human economy. Previous to these eminent men, the knowledge of uterine pathology, as it existed in the Paris school, was limited to a more or less perfect acquaintance with fibrous tumor, polypi, cancer, acute and chronic metritis, and displacements. With them, as with our own pathologists up to the present day, functional derangements, such as amenorrhœa, dysmenorrhœa, menorrhagia, sterility, abortions, &c., were attributed to vital uterine states, to irritability, or to want of tone of the uterus, or to the debility and disordered state of general health, which so frequently accompanies these functional derangements. The leucorrhœal discharges, which are so frequently observed along with these conditions, were considered to be merely symptomatic in the great majority of cases.

I cannot better illustrate how totally, in this country, the important pathological data which it will be my aim to elucidate, have been lost sight of, than by recalling the very striking fact, that inflammatory ulceration of the uterine neck and its sequelæ are not even alluded to in the work which for the last thirty years has been considered the standard authority on uterine diseases, and the talented author of which occupies the very first rank among our uterine pathologists. I allude to Sir Charles Clarke's Treatise on Female Discharges, the third edition of which was published in 1831. Various forms of cancerous ulceration are carefully described, but the very existence of inflammatory ulceration is not mentioned. Now when we reflect that, as I shall hereafter show, in nearly five cases out of six of *confirmed* uterine disease, in which chronic discharges, mucous, puriform, or sanguinolent, or other well-marked uterine symptoms, are present, there exists inflammation or inflammatory ulceration of the cervix, it is easy to conceive how erroneous must be the views respecting uterine pathology, of a medical school ignorant of so vitally important a circumstance.

The surprise which we must feel on learning that so much valuable information respecting female diseases, contained in the works of the ancients, was lost to humanity for so lengthened a period, diminishes, however, when we reflect on the channels through which the knowledge of the ancients has been conveyed to us. When Europe was plunged in the intellectual darkness that followed the overthrow

of the Roman empire by the barbarians, science found a refuge among the Arabs, and it was through their labors, principally, that the Greek and Roman medical classics were preserved, and became known to their successors in science, the Roman Catholic priesthood. On the revival of letters taking place, several centuries after the overthrow of the Arabian caliphs, all the knowledge of the day, of medicine as well as of the other arts and sciences which constituted the Quadri-vium, was confined to priests and monks.

Both the Arabian physicians and the Roman Catholic priests were placed in a position of peculiar delicacy towards their female patients. The former, owing to the seclusion of the female enforced by Mohammedan customs, and the latter, owing to their vows of celibacy. It is not, therefore, extraordinary that the Arabians should merely have transmitted to us in their works the information respecting uterine diseases and midwifery contained in the Greek and Latin authors whom they translated or copied. Nor is it extraordinary that the Roman Catholic priesthood should have abandoned midwifery to midwives, and have allowed the practical information on uterine diseases contained in the works of the ancients and of the Arabians to fall into abeyance. Neither the Mohammedan nor the monkish physicians were so situated, socially, as to be able to prosecute these branches of medical knowledge. Thence it is that midwifery was utterly neglected, and remained a dead letter so far as science is concerned, until a comparatively recent period, that of Ambrose Paré, Guillemeau, &c. Thence it is, also, that a cloud of ignorance has, from the same cause, overshadowed uterine pathology until our own day.

That results directly produced by the existence of a peculiar state of society, should have remained in operation for several centuries after the social condition which created them has itself ceased to prevail, is certainly rather singular; but this is not unfrequently the case, as might be variously exemplified. It would be difficult, however, to meet with a more striking illustration of the fact than is presented by the history of midwifery and uterine diseases. Up to the middle of the fourteenth century, the practice of medicine being in the hands of the priesthood only, the neglect into which they fell can be easily understood. It is also easy to understand that these branches of medical knowledge should have continued to be neglected for some time afterwards, a certain connection long continuing between the practice of medicine and the clerical profession. Although Pope Honorius the Fourth, at the close of the fourteenth century, prohibited priests from actually practising medicine, yet in various countries, physicians were bound by oath to celibacy, as was the case until the year 1420 in the University of Paris.

It does, however, appear most marvellous that the influence of these former social conditions should still be felt in the medical profession, should still exercise an evident control over medical science in England—a country which has now for three centuries professed Protest.

antism. And yet, unless we admit that such is the case, how can we account for the existing state of uterine pathology, or explain the opprobrium thrown, until within the last few years, by the governing bodies of our leading medical corporations, upon those who devote their attention to midwifery, and to the diseases of females, inseparably connected with midwifery?

## CHAPTER II.

### ANATOMY AND PHYSIOLOGY OF THE UTERINE ORGANS.

#### UTERUS—OVARIES—BROAD LIGAMENTS—VAGINA—VULVA—AND PELVIC FASCIA.

THE uterus occupies the median region of the pelvic cavity, lying between the bladder anteriorly and the rectum posteriorly, with both of which it has important connections. It is contained, as also the ovaries, Fallopian tubes, and round ligaments, in the folds of the peritoneum, which constitute the lateral or broad ligaments.

Fig. 1.



The Uterus and the Lateral Ligaments (reduced from Quain's Plates).

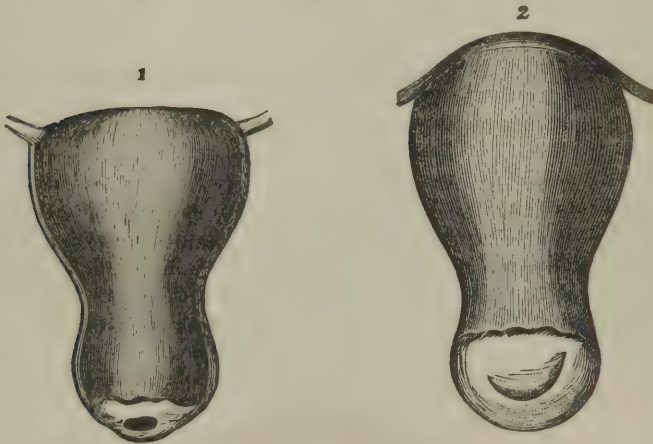
The anterior wall of the uterus adheres to the bladder inferiorly, for about half an inch. The limits of this adhesion are: from the insertion of the vagina on the cervix to the cul de sac formed by the peritoneum, as it is reflected from the posterior wall of the bladder to the anterior surface of the uterus. The posterior surface of the uterus is connected with the rectum, but indirectly, through the medium of the peritoneum, which, after covering it and the superior region of the vagina, is reflected on the rectum, so as to form the posterior or utero-rectal pouch.

The form of the uterus is that of a hollow conoid, with its large



extremity, the body, directed upwards, and its small extremity, the cervix, downwards. The neck of the uterus is divided externally into two regions, by the insertion of the vagina: the intra-vaginal, the portion of the neck which protrudes into the vagina, and the supra-vaginal, that which is above, and which, as we have seen, is the region of the uterus in contact with the lowest portion of the posterior wall of the bladder. The relative length of these two regions of the neck of the uterus varies greatly in different individuals, with some the insertion of the vagina being very low on the cervix uteri, with

Fig. 2.



1. The Virgin Uterus.

2. The Post-Partum Uterus.

(Dubois' *Traité des Accouchements*.)

others very high. In the former case, the portion that protrudes into the vagina is necessarily small, and may be rudimentary: in the latter case, on the contrary, it is long and voluminous. Independently of this natural cause of elongation, the cervix may be exceptionally elongated to nearly any extent. I have repeatedly met with it three inches in length in the virgin female, resting on the vulva or protruding from it like a thick finger; and there are many instances of this kind on record.

According to M. Huguier, this elongation of the cervix is constantly morbid, and is to be considered merely as a form of uterine hypertrophy. This view he has recently developed in a valuable monograph on Hypertrophy and Elongation of the Neck of the Uterus,<sup>1</sup> to which I shall have to allude elsewhere at greater length. M. Huguier recognizes two forms of hypertrophy of the cervix. That of the portion of the cervix which is below the insertion of the

<sup>1</sup> *Mémoire sur les Allongements Hypertrophiques du Col de l'Uterus*. Paris: Baillière. 1860.



vagina, the sub-vaginal; and that which is above the vaginal insertion, the sus-vaginal. The sub-vaginal form of M. Huguier is the one now in question, the one described in the early editions of this work, as occasionally existing apart from any morbid condition as a congenital malformation. Notwithstanding the decided opinion expressed by M. Huguier on this subject, and the extreme liability of the cervix and of the uterus generally to become hypertrophied under the influence of inflammation, or even of congestive irritation, I still think this elongation of the cervix may exist occasionally as a natural malformation. I have seen several cases in young unmarried women, in whom there was no inflammatory action whatever present. I was merely consulted by them for prolapsus; the appearance of the extremity of the elongated cervix at the vulva having occasioned alarm, and led them or their parents to seek advice and assistance. When a source of distress and discomfort, or of inconvenience in married life, or of sterility, the elongated cervix has been repeatedly amputated without any untoward or dangerous result. For further details on the subject, however, I must refer to a subsequent chapter.

The vaginal cervix (Fig. 2, No. 1) in the virgin female represents the upper portion of a small cone directed rather below and behind. At the summit of the cone is the orifice of the os uteri, a small circular opening, the anterior lip of which is rather fuller and thicker than the posterior. The diameter of this opening varies considerably, but it ought never, in a healthy state, to be sufficiently great to give to the finger the sensation of a cavity. Such a condition of the os uteri is generally the result of disease, as we shall see hereafter. The sensation imparted to the finger in health is merely that of a slight depression. After marriage, the cervix is generally flattened and retroverted, especially when naturally long and voluminous. After parturition, the cone formed by the vaginal cervix (Fig. 2, No. 2) remains, as does the entire uterus, rather more voluminous, and the orifice of the os uteri generally assumes a transversal form.

According to my researches, and those of M. Boullard of Paris, the virgin uterus is usually not perfectly straight, but presents a slight curvature, the cavity of which is anterior and towards the bladder, and the convexity posterior, towards the rectum. I discovered the general existence of this slight curvature by the use of wax bougies passed during life into the uterine cavity. M. Boullard discovered it by the direct inspection of the dead. I have described this congenital condition and its pathological bearings at length in Chapter XIV. on Displacements.

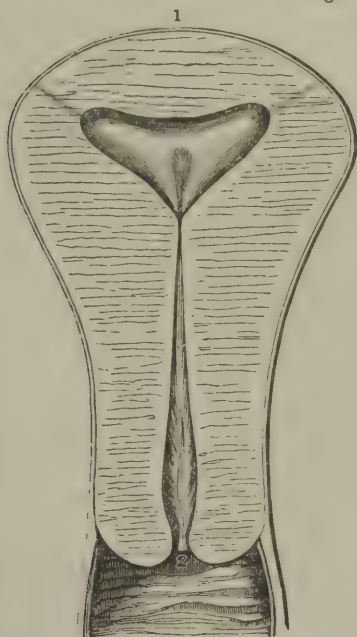
The uterus occupies the median line in the pelvis. Its axis mainly follows the direction of that of the brim of the pelvis, so that in a woman standing, the fundus of the uterus is slightly inclined upwards and forwards. The neck would be directed downwards and backwards in the virgin, were it not for the anterior curvature just described, which must tend, when it exists, to bring the neck into the direction of the axis of the lower pelvic outlet.

Not unfrequently the uterus naturally occupies a diagonal position, lying from right to left, so that the fundus is directed towards the right ilium, and the cervix towards the left groin. This fact, which I am continually observing, is not mentioned by anatomists, but should be borne in mind, as ignorance of it may lead to error in the diagnosis of disease. Most of the lateral deviations of the uterus described by obstetricians and by pathologists are merely the exaggeration during pregnancy, or in a diseased and hypertrophied organ, of this natural position or direction. The uterus may also lie diagonally from left to right, but this direction is very rarely observed.

The weight of the nulliparous uterus is from an ounce to an ounce and a half, and that of the uterus of a woman who has borne children from one ounce and a half to two ounces.

The interior of the uterus does not present, as is generally supposed, a single cavity, reached by a channel or passage through the neck, but a double cavity, one belonging to the body of the uterus,

Fig. 3.



1. The Cavities of the Uterus and Cervix,  
as they are during life.



2. The Uterine Cavities, as represented in Quain's Plates.

and the other to the neck itself. Each of these cavities is dissimilar to the other. That of the uterus is triangular, and its parietes form curves, the convexities of which are internal, and which are all but in contact, being merely separated by a little mucus. The cavity of the

uterine neck is, on the contrary, fusiform, and its lateral parietes constitute regular curves, the convexities of which are external.

At the union of the two cavities there is, during life, a natural stricture or coarctation, which closes the cavity of the uterus. This coarctation, which is not mentioned or described by anatomists, nearly always exists in the absence of disease, and is sufficiently great (except soon after parturition, and sometimes for a few days after menstruation) to prevent even a small sound penetrating into the uterus, unless considerable force be used. From its universality, and occasional persistence after death, it must be the result of the anatomical structure of the parts, and probably of the presence of a kind of muscular sphincter. When the mucous membrane of these cavities is inflamed, and under various other conditions hereafter to be enumerated, this internal sphincter becomes relaxed, and the sound passes easily into the uterine cavity.

The entire cervical canal is physiologically endowed with considerable contractile power, as is evident by the manner in which it contracts and expels a wax bougie or any foreign body passed into it. This natural contractibility may be much modified, increased or diminished, by disease.

The surface of the cavity of the uterine neck presents a well-known peculiarity, which, as we shall see elsewhere, is important in a pathological point of view. Along the median line both of the anterior and posterior walls there is a longitudinal prominence, or crista, from which radiate on each side numerous thick folds, placed regularly one above the other, and constituting what has been called by anatomists the *arbor vitæ*, or tree of life. A trace of this median longitudinal crista is also found on the anterior and posterior walls of the cavity of the body of the uterus. The capacity of the latter cavity, in the healthy state, is very limited. It will not contain more than from nine to twelve minims of fluid.

The depth or length of the two uterine cavities from the *os externum* to the upper limit of the cavity of the body of the uterus is from two inches and a quarter to two and a half. The uterine cavities are both pretty nearly of the same length—that is, about an inch and a quarter. The contraction of the *os internum*, which arrests the probe, is, however, often found, during life, to be an inch and a half from the *os externum*, which would give only one inch for the depth of the uterine cavity. In the nulliparous uterus this natural contraction not unfrequently begins at about three-quarters of an inch from the *os*.

Pregnancy and parturition impress decided modifications on the size and form of the uterus, which deserve special notice. The uterus becomes more voluminous, and its longitudinal and transverse diameters are both increased. (See Fig. 2, No. 2, p. 24.) The cavity of the uterus is slightly enlarged at the expense of that of the cervix, the limit between the two being often rather lower, and its form is changed. Instead of representing a triangle with curvilinear borders, the convexity directed inwards, it represents an ovular surface, the margins



of which are regularly curved and concave. The infundibuliform angles, also, in which the orifice of the Fallopian tubes are placed in the nulliparous uterus, disappear, to a great extent, in women who have had several children, the Fallopian tubes opening into the superior and lateral regions of the ovular cavity. The external form of the uterus also undergoes a change; the anterior and posterior walls become more convex, and the superior margin rises above the insertion of the Fallopian tubes, instead of being all but rectilinear. (Dubois.)

*Structure.*—The uterus is formed by an external peritoneal or serous investment, a proper or muscular tissue, an internal mucous membrane, bloodvessels, lymphatics and nerves. The external peritoneal investment of the uterus is intimately connected with the proper tissue of that organ by dense cellular tissue, according to most anatomists; and by short muscular fibres, according to M. Jobert de Lamballe, except in the lower region, near the cervix and vagina, where he also admits the presence of cellular tissue.<sup>1</sup>

The muscular tissue of the uterus is of a very peculiar nature. In the impregnated state its structure is easily demonstrable, the muscular fibres lying in bands, circles, and ellipses, which the eye perceives without difficulty. It is then highly vascular; the arteries and veins being large, and filled with blood. Its vitality is consequently great, and, as a necessary result, its pathology is that of a highly-vitalized organ. Thence it is, partly, that in the puerperal state we find inflammation severe, and rapid in its development and progress. In the non-impregnated state, on the contrary, the uterus is in a very different condition. Instead of weighing several pounds, it weighs little more than one ounce. Its muscular tissue is in a completely rudimentary state, the fibres being so closely agglomerated and interwoven, that at first sight it appears more like a mass of fibrous tissue than the muscular and highly vascular organ previously examined. This fibromuscular structure contains but very little cellular tissue; indeed, its presence has been altogether denied by some anatomists. With the assistance of the microscope, however, it may be easily recognized in the diseased uterus; we may therefore conclude that it is also present in a rudimentary form in the healthy organ. The existence of cellular tissue in the healthy structure surrounding the diseased regions was very evident in a uterus half destroyed by corroding ulceration, which I presented to the London Medical Society in 1851.<sup>2</sup>

The structure of the cervix uteri is fundamentally the same as that of the body of the organ, but it differs by the presence of a greater amount of cellular tissue and by a greater degree of vascularity. The muscular fibres, according to M. Jobert, are circular, decussatory, and longitudinal in the entire animal creation. The circular fibres are the most numerous, the longitudinal being only found in the posterior

<sup>1</sup> M. Jobert de Lamballe on Structure of the Uterus. *Lancet*, Sept. 7th, 1844.

<sup>2</sup> *Lancet*, vol. i., 1851, page 295.



region of the cervix. The circular fibres are distinct from those of the body of the uterus; the longitudinal ones, which occupy the middle posterior region of the cervix, are, on the contrary, the continuation of the posterior longitudinal layer of the uterus. Hence, probably, it is, that chronic inflammation of the cervix uteri has a much greater tendency to pass on to the posterior wall of the uterus than to the anterior, the latter region of the cervix being less intimately connected with the body of the uterus.

The uterine cavities are lined by an internal or mucous membrane, the nature of which has much occupied anatomists. It is only, however, within the last few years that its true nature has been satisfactorily made out, through the labors of M. Coste, of M. Robin, and of Baron Dubois, of Paris. In the following brief account of this membrane I have adopted the views of these authors.<sup>1</sup>

The lining membrane of the uterine cavity, although evidently a mucous membrane, differs considerably from all other mucous structures. It does not merely line the cavity of the uterus, as mucous membranes generally do, but forms a part of the uterine walls, being continuous with the proper tissue of the organ, without the interposition of any sub-mucous cellular tissue. Its thickness is very considerable, representing a fifth, or even a quarter, of the entire thickness of the uterine wall. The adherent surface, as we have seen, is intimately connected with the proper tissue of the uterus; the free surface, which constitutes the interior of the uterus, is smooth, and presents a great number of small openings, which are the orifices of mucous follicles.

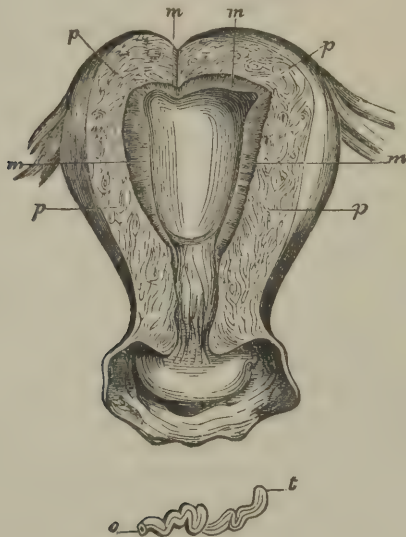
On dividing this membrane by a section of the uterus, it is found to be formed by a number of parallel filaments, perpendicular to the uterine cavity, and closely superposed. Thence a smooth homogeneous appearance, which contrasts with that of the proper tissue, the fibres of which are interwoven in every sense, and which presents a number of vascular openings.

The uterine mucous membrane is formed by glands, vessels, and an epithelium, united by fibro-plastic tissue, dartoic tissue, cellular tissue, and an amorphous matter. The glands are remarkable by their form, which is tubular, long, and sinuous, or vermiform. Numerous vessels penetrate it, but in a state of capillary division. Of the various tissues enumerated, the fibro-plastic is the most abundant, forming about half the mucous membrane. It differs from cellular tissue, properly so-called, by its microscopic characters, and also by the fact that it belongs exclusively to anormal tissues, or to those in process of renovation. Its presence, therefore, in the uterine mucous membrane, in the normal state, is a remarkable fact, and the only example of the kind in the economy. The epithelium is vibratile,

<sup>1</sup> M. Coste—*Histoire Générale du Développement des Corps Organisés*, 1847. M. Robin—*Archives Générales de Médecine*, Juillet, Août, 1848. Baron Dubois—*Traité des Accouchements*, vol. i., 1849.

inasmuch as it presents ciliary corpuscles, which are incessantly agitated by a vibratory movement.

Fig. 4.



*p p*, The proper tissue; *m m*, the mucous layer or membrane; *o t*, a tubular gland.  
(From Coste's Atlas.)

The mucous membrane of the cervical canal presents the same structure and characteristics, but it is very much thinner. The glands, also, instead of being long and tortuous, are short, and of a utricular form. They are very numerous, and many of them present an important peculiarity, that of being imbedded, hidden between the folds and radiations of the arbor vitæ. Thence, as we shall see, the extreme difficulty, in many cases, of curing chronic inflammation of the mucous membrane of the cervical canal.

The arteries which supply the uterus, are the ovarian, from the aorta; and the uterine from the hypogastric. The uterine branches of the ovarian arteries are principally distributed to the body of the organ, but their smaller divisions reach the cervix, and freely ramify in it. The uterine arteries, by far the larger of the two, after passing along the vagina, give off their largest branches to the neck of the uterus, in their course to the body of the uterus. Thus, in the non-pregnant state, the cervix is more freely supplied with bloodvessels than the body of the organ, which may account for its greater liability to inflammatory disease. M. Recamier has described, as existing around and near the os uteri, a vascular network, which forms a sort of erectile tissue: and his views have been confirmed by the researches of M. Forget and Dr. Tilt. This anatomical condition would tend to

account for the extreme turgescence so often observed around the os when it is attacked by inflammation. It accounts also for the severe hemorrhages which have been known to follow division of the neck of the uterus, adopted as a remedy for constriction.

The veins of the uterus accompany the arteries. The ovarian empty themselves on the right side into the inferior vena cava; on the left into the corresponding renal vein. The uterine veins empty themselves into the hypogastric veins, and anastomose freely with the ovarian. These veins are remarkable for their great size, which is much greater than that of the arteries, for their frequent anastomoses, and for their anatomical structure. The external membrane being absent, the internal membrane is in immediate contact with the proper tissue of the uterus, so that the walls of the veins are contractile. With reference to the veins, therefore, the uterus may be considered an erectile tissue, with muscular parietes. The above anatomical facts explain the great tendency to venous congestion which the uterus presents in disease, especially when the vital contractility of the organ has been diminished by the lengthened persistence of morbid changes.

The lymphatic vessels are numerous, and may be divided into superficial, situated at the surface, underneath the peritoneal covering, and the deep-seated, which are distributed in the walls of the uterus. Those of the body of the uterus follow the course of the ovarian vessels, and uniting with the lymphatics of the ovaries, and broad ligaments, terminate in the lumbar lymphatic ganglia. Those of the cervix uteri terminate principally in the pelvic ganglia.

The nerves of the uterus are derived from the renal and hypogastric plexuses. Those from the first source follow the course of the ovarian arteries, and are distributed to the fundus and superior region of the uterus. Those from the second follow that of the uterine arteries, and present pretty nearly the same distribution, dividing into superficial and deep-seated branches. The hypogastric plexuses are principally formed by branches of the sympathetic, but they also contain nerves issuing from the sacral plexuses. The uterus is thus connected both with the ganglionic and cerebro-spinal system—a fact which accounts for the sympathetic influence which it exercises when diseased on the various functions of organic life, as also on those of the cerebro-spinal system. The researches of the numerous anatomists who have of late years investigated the nerves of the uterus, have proved satisfactorily that the neck of that organ receives nerves, as well as the body; but they do not clearly prove that these nerves reach the lower, or vaginal portion of the cervix. M. Jobert, indeed, states positively that his dissections show they do not. The marked insensibility of the vaginal portion of the cervix, in the great majority of cases, would tend, *a priori*, to prove that nerves are deficient in this region, or, which is more probable, present to a very limited extent. In no other region of the uterus do we see the same absence of pain, when serious disease is present, or when painful therapeutic agents



are resorted to. This is not always the case, however, for occasionally the cervix is found acutely sensitive to every kind of impression.

According to Dr. Robert Lee, the nerves of the uterus enlarge greatly during pregnancy, so as to cover the uterus with a stratum of nervous plexuses and ganglia. Dr. Beck, on the contrary, states that the nerves do not alter in their thickness during pregnancy; at least, that no alteration occurs before they enter the tissue of the uterus, while that organ itself, and the vessels which supply it, enlarge in size to an extreme extent. (Quain.)—Both these contradictory statements are illustrated and supported by careful dissections, and have both received the sanction of the Royal Academy. The questions which they involve, however, although very important to the anatomist and physiologist, are much less so to the pathologist, to whom it is sufficient to know that the uterus is freely supplied with nerves, which connect it primarily and principally with the ganglionic system, and secondarily, with the cerebro-spinal system. Thus are explained the numerous sympathetic reactions on the various functions of organic life, and on the brain and spinal cord, which are exhibited in uterine disease.

*Ovaries, Fallopian tubes, round ligaments, and broad ligaments.*—The ovaries are situated in the posterior folds of the broad ligaments, behind the Fallopian tubes, in front of the rectum, from which they are often separated by some folds of the small intestine. They occupy the superior margin of the lateral ligaments, and are consequently on a level with the fundus of the uterus. The external extremity is fixed to the fimbriated extremity of the Fallopian tube, and the internal extremity is connected with the uterus by the ovarian ligament. The ovaries are constituted by a peritoneal and a fibrous investment, and by a parenchyma or proper tissue. The latter is formed by small, densely aggregated cellular fibres, between which are spaces filled with a yellow fluid. It is very vascular, and is supplied by the ovarian arteries which enter the ovary by the lower margin. Interspersed in this spongy tissue we find the Graafian vesicles.

Between the folds of the lateral ligaments we also find the Fallopian tubes, constituted by a fibro-muscular sheath, investing a canal lined by an elementary mucous membrane; and the round ligaments which are composed of muscular fibres emanating from the uterus.

The lateral ligaments, formed, as we have seen, by the reflection of the peritoneum from the anterior to the posterior surface of the uterus, contain between their folds, in addition to the ovaries, Fallopian tubes, and round ligaments, a layer of filamentous tissue, which separates them one from the other, and surrounds the various organs enumerated. The principal use of this intervening cellular tissue appears to be to allow the peritoneal folds to separate and accommodate themselves to the progressive ampliation of the pregnant uterus. They divide the pelvic cavity into two regions; the anterior contains the bladder, the posterior, the rectum.



*Vagina and Vulva.*—The vagina is a membranous canal, the length of which varies greatly in different individuals, according to their height and to individual peculiarity. In the healthy female, when not relaxed by disease, or distended beyond measure by repeated child-bearing, the vagina represents a very extensible but closed canal, the walls of which are in contact, so as to embrace and support the neck of the uterus. The posterior wall is longer than the anterior, owing to its rather convex form and to its insertion at a higher region of the cervix. It is in contact in its superior fourth with the peritoneum, and in its inferior three-fourths it lies over the rectum, with which it is connected by a layer of fatty cellular tissue of variable thickness. The anterior wall is slightly concave, and is in relation superiorly with the trigone of the bladder, and inferiorly with the urethra. It is connected with these organs by filamentous cellular tissue of a dartoic nature. At the sides the vagina is inclosed between the levator ani muscles. It is partially closed inferiorly by a small sphincter-like muscle—the constrictor vaginae. The vagina is constituted by a proper membrane or tube presenting the characters of erectile tissue, and contained between two fibrous layers. Externally it is surrounded by a loose dartoic or contractile cellular tissue; internally it is lined by a mucous membrane covered by a squamous epithelium, and presenting numerous transverse rugæ, which radiate from a median raphé or columna. These rugæ are numerous in the lower part of the canal, and become less marked and less numerous as we reach the upper region. Repeated pregnancies, by dilating the vagina, render the rugæ less characteristic. Hence the opinion that they are principally destined to facilitate the ampliation of the vagina. M. Cruveilhier, however, in common with some of the older physiologists, considers them to be formed principally by large papillæ lineally arranged, and to be organs of sensation. The vaginal mucous membrane is supplied with mucous follicles. The arteries of the vagina are branches of the internal iliac—viz., the vaginal, internal pudic, vesical, and uterine. The corresponding veins are large, and form at each side a large plexus. The nerves are derived from the hypogastric plexus of the sympathetic and from the fourth sacral nerve and the pudic nerve of the spinal system.

The vulva is formed by the mons veneris, the labia majora and minora, the hymen, and the clitoris. The mons veneris is merely the integument on the fore part of the pubic symphysis, elevated by a quantity of cellular and adipose tissue, and covered with hair. The labia majora are two rounded elliptic folds of integument, which descend from the mons downwards and backwards, gradually becoming thinner as they descend. Inferiorly their union limits the perineum in front; superiorly they conceal between their commissure the clitoris. The external surface of the labia majora is cutaneous; the internal, mucous; and between the two are found fat, vessels, nerves, glands, and dartoic tissue. From the upper surface of the clitoris descend narrow folds of mucous membrane, the labia minora or nymphæ,

which directly inclose the external orifice of the vagina, and are very freely supplied with mucous follicles and sebaceous glands. It is covered by a scaly epithelium. Sometimes the nymphæ, instead of being concealed by the labia majora, are elongated, and protrude beyond them, in which case they generally become thicker and assume a darkish hue. With the women in some parts of Africa and Asia, as is well known, this peculiarity of structure becomes so marked as to constitute an inconvenience and a deformity, and has even led to the adoption of a kind of circumcision. Between the two layers of mucous membrane which constitute the nymphæ is found a cellular tissue of an erectile nature, which may be said to constitute its proper tissue, and a great number of small sebaceous follicles. The vessels and nerves are the same as those of the labia majora. The former are derived from the internal and external pudic and obturator arteries; and the latter from the inguinal branches of the lumbar plexus and from the internal pudic nerve.

The *clitoris* is a spongy vascular erectile organ, placed before the symphysis pubis and below the upper commissure of the nymphæ, which presents a great identity of structure with the penis or parallel organ in the male. Its free extremity or gland is covered by an external membrane, on which ramify a vast number of small nerves,<sup>1</sup> branches of the internal pudic, the presence of which accounts for its extreme sensibility and delicacy. This structure constitutes the clitoris an erectile organ; but its erectibility, in the healthy and normal state, is confined within narrow limits, only slightly increasing its length and volume, so that it never depasses the labia majora. Under the influence of disease or constant irritation, however, and sometimes as a natural condition, it may attain a considerable size.

The *hymen*, a duplication of mucous membrane placed at the entrance of the vagina, is constant in its presence, but varies greatly in thickness and development in different females. In some it is thin, largely open, and elastic, so as to admit of easy dilatation: in others, on the contrary, it is fleshy, presents a small opening, and its resistance can only be overcome by considerable force. When lacerated, the divisions retreat and form small tubercles, and sometimes elongated tongues, to which the name of *carunculæ myrtiformes* is usually given.

The vagina, vulva, clitoris, nymphæ, &c., are all, to a great extent, erectile organs. Under the influence of menstruation, and especially of sexual feelings and orgasm, they become congested, distended with blood; a species of general erection taking place.

The various vulvar organs described, all present numerous mucous follicles, destined to lubricate them, and to protect them from injury. At the union of the two upper thirds of the vaginal orifice with the lower third, at the side of the vagina, are two large mucous glands, the glands of Bartholine, or the vulvo-vaginal glands, which, although

<sup>1</sup> See a very interesting monograph on the structure of the clitoris by Kobelt of Fribourg. Paris, 1851. (Translation.)

known and described by the older anatomists, had been all but forgotten until recent researches of M. Huguier<sup>1</sup> demonstrated their constant existence and their importance as organs of lubrication. The secretion of these glands appears to be greatly under the influence of the sexual orgasm. The duct by which they empty themselves is about half an inch in length, and opens at the side of the hymen. They are frequently the seat of disease, as we shall see hereafter.

The mucus secreted by the vulvo-vaginal glands, and by the follicles of the vulva, is transparent and viscid; that found in the vagina and on the cervix is usually white and creamy; whilst that of the cervical canal, uterus, and Fallopian tubes, again presents the transparency and viscosity which usually characterize mucus. In the cervical canal it is peculiarly viscid and tenacious, adhering to the surface so as to be extracted with difficulty. The mucus of the uterus is alkaline, brings back the blue color of red turmeric paper, and contains in abundance small corpuscles, which appear to be suspended in it.<sup>2</sup> The mucus of the vagina is acid, reddens blue turmeric paper, and nearly always contains numerous lamelliform corpuscles, the result of a kind of exfoliation of the epithelium. The white creamy mucus found on the cervix and in the vagina is supposed by M. Donné to be the result of the mingling of the alkaline cervical mucus with the acid vaginal mucus, and of the coagulation of the albumen of the former. As M. Donné judiciously remarks, the mucous membrane of the vagina presents characteristics that constitute it a mere modification of the skin, of which it is the continuation: it is covered with an epithelium very analogous to the epidermis, and is, to a limited extent, an organ of tactile sensation, secreting mucus, which, like the cutaneous secretion, contains a multitude of epidermic detritus, and no mucous globules. The mucous membrane of the cervical canal and of the body of the uterus, on the contrary, more deeply seated, loses completely all analogy with the skin; its epithelium is vibratile, it is not an organ of tact, and its mucus is characterized by the presence of mucous globules, and by the absence of epithelial detritus.

The various organs constituting the vulva, which we have rapidly examined, present a feature in common already alluded to, which deserves special notice—their erectile structure. They are all supplied with numerous vessels, which anastomose so freely as to assume the spongy or cavernous character, thus constituting tissues, in which the rapid flow of blood produces erectile phenomena. The multiplicity of nerves, and the presence of dartoid tissue, contribute greatly, no doubt, to the development of the above conditions. This structural peculiarity of the vulvar organ impresses on their inflammatory diseases peculiar features.

*The Pelvic Fascia.*—The pelvic fascia are constituted by the superior pelvic aponeurosis, and by the perineal aponeurosis.

The superior pelvic aponeurosis closes the abdomen inferiorly. It

<sup>1</sup> Mémoires de l'Académie de Médecine, 14th volume.

<sup>2</sup> Donné, Cours de Microscopie, 1844, p. 155.



represents a concave veil, or diaphragm, extended over the pelvic cavity, and inserted posteriorly on the anterior surface of the sacrum and coccyx, anteriorly on the internal surface of the pubis, and lining laterally the sides of the pelvic excavation. This aponeurosis is traversed by the rectum, the vagina, and the bladder; but the aponeurotic fibres being reflected on each of these organs, there is no positive perforation of the aponeurosis. This disposition is more especially remarkable on the bladder and vagina, and contributes considerably to strengthen these organs. The rectum, vagina, and bladder thus divide the pelvic fascia into two lateral halves. Between the rectum and the vagina the fascia presents a transversal septum, which divides it also into two very unequal antero-posterior halves; the smaller one, the posterior, containing the rectum, and the larger, the anterior, containing the vagina and bladder. The existence of this fascia adds greatly to the strength of the floor of the pelvis, which it partly forms; contributes powerfully to retain in situ the pelvic organs, and exercises considerable influence in limiting and directing morbid manifestations, and especially fluid collections.

The perineal aponeuroses are three in number, and occupy that part of the pelvic outlet which is formed by the pubic arcade. Their form is consequently triangular, and their limits are, laterally, the ascending branches of the ischion, and posteriorly, a line drawn from one tuberosity of the ischion to the other. They all three adhere to the body and symphysis of the pubis superiorly, and to the ascending branches of the ischion laterally, uniting posteriorly so as to form, as it were, closed cavities, traversed by the urethra and the vagina, but not by the rectum, which is posterior.

The superficial aponeurosis is inserted on the anterior surface of the pubis and ischion, covers the roots of the clitoris, the ischio-cavernous muscles, and is inserted in the skin of the labia majora. The middle aponeurosis is inserted on the pubis, behind the clitoris, and covers the bulb of the vagina, and the constrictor-vaginæ. The deep-seated aponeurosis is separated from the former by cellular and vascular tissue only. It is inserted on the posterior surface of the pubis, and on the internal surface of the ischion. These aponeuroses greatly add to the solidity and power of resistance of the external orifice of the genito-urinary organs.

*Physiology.*—Throughout its entire period of vital activity, the non-pregnant uterus has an important function to perform, that of menstruation.

The function of menstruation has been much elucidated during the last ten years by the labors of the numerous physiologists who have investigated the phenomena of generation, amongst whom stand prominent, Pouchet, Gendrin, Negrier, Barry, Wharton Jones, Bischoff, and Raciborski, &c. I would, however, more especially refer to the elaborate work on Spontaneous Ovulation, by M. Pouchet,<sup>1</sup> in which will

<sup>1</sup> *Théorie Positive de l'Ovulation Spontanée*, par F. A. Pouchet, Professor of Zoology to the Museum of Natural History of Rouen. Paris: Baillière. 1847.



be found a full and complete account of his own important researches, as also of those of nearly all the ancient and modern writers on the subject. To M. Pouchet, whose life appears to have been partly devoted to the study of this interesting and important physiological point, belongs the credit of having been one of the first to broach the doctrine of spontaneous ovulation as a law in the females of all mammiferæ, and also of having established this law in the most irrefutable manner by numerous experiments, and by a close and searching analysis of all that had been done by his fellow-laborers in this field of observation.

The researches to which I refer prove, in the most satisfactory and conclusive manner, that menstruation is intimately connected with the evolution from the ovary of matured ova, which takes places periodically in the virgin as well as in the married female. In the human female the maturation and evolution of ova occur at frequent intervals, and are marked by the exudation from the uterine cavity of a greater or less quantity of blood. In the lower animals, the interval is generally longer, and the menstrual phenomena are less marked, consisting merely in congestion of the sexual organs, accompanied by the exudation of mucus, mingled with a few blood-corpuscles. But in both, the phenomenon is the same; in both, nature directs a tide of blood to the uterine organs, as the ova contained in the ovary arrive at maturity, in order that the uterus may be in a fit state to receive and nourish them should they be fecundated after their emission from the Graafian vesicle.

A decided physiological connection exists between the different organs which constitute the sexual apparatus in the female—viz., the ovaries, the uterus, the external sexual parts, and the breasts. All are dormant, as it were, until the advent of puberty; the great and essential characteristic of which is the development of the Graafian vesicles or ova. Previously deeply imbedded in the tissues of the ovaries, small and rudimentary, as puberty approaches some of their number begin to enlarge, and gradually to approach the surface. The installation of puberty and the first menstrual show coincide, and are evidently connected with the arrival of one or more of these vesicles at the full period of development. A few red streaks formed by capillary vessels are first observed on the surface of the Graafian vesicles, which protrude from the surface of the ovaries. These capillaries gradually increase in number and intensity of color, giving the membrane on which they ramify the appearance of being the seat of acute inflammation, until at last, in the centre of the vascularized surface, an opening shows itself, the result of a tear or rent, or of absorptive inflammation; the ovule is expelled, and having been grasped by the fringed extremity of the Fallopian tube, passes down its canal, to be lost, no doubt, in the uterus, if not fecundated.

According to M. Pouchet, the opening of the Graafian vesicle and the evolution of the ovule take place either at the epoch when menstruation ceases, or one or two days later. If this view is correct, the

progressive vascularization of the proper membrane of the ovum or Graafian vesicle would coincide with, and to a certain extent occasion, the uterine congestion that precedes and accompanies menstruation; as also the sympathetic irritation and swelling of the breasts which so frequently precede and accompany the menstrual flux.

I have qualified the above statement by the words "to a certain extent," because it appears to me that the uterus is not merely a passive organ, receiving and responding only to impressions originating in ovarian phenomena, but that it exercises a marked influence over their development. Thus we find that its diseases very frequently arrest and modify in various ways the function of menstruation, and also diminish, annihilate, or increase sexual feelings and appetites. We may therefore fairly presume that they exercise the same unfavorable influence over the maturation and evolution of the ova. In other words, the attentive consideration of the reciprocal influence of the uterus and of the ovaries on each other in disease, must lead all impartial observers to the conclusion, that in health they constitute one system of organs, the integrity of which in its component parts is necessary for the normal accomplishment of the functions of ovulation and menstruation.

The above, I am firmly convinced, is the only true and rational view that can be taken of the uterine system, both in health and in disease. To attribute both the healthy and the morbid conditions of menstruation all but exclusively to ovarian influence, as has been done by some pathologists, is much too narrow a view of uterine pathology, and is as far from the truth as would be the negation of all ovarian influence on uterine phenomena. The ovaries, it is true, preside over the function of menstruation, as we have seen, but the uterus cannot certainly be considered a "mere reservoir," or bladder, destined only to receive and nourish the ovum after impregnation.

The more accurate knowledge which we now possess of the cause, seat, and mode of manifestation of the menstrual function, tends greatly to corroborate the view at which I have long arrived, from clinical experience, respecting irregular or morbid menstruation—viz., that it is nearly always, when strongly marked and *confirmed*, the result of positive disease of some portion of the uterine system, and, generally speaking, of the uterus. That such is the case must be admitted as probable, when we consider that the function, although presided over by the ovaries, is accomplished by the uterus, which contains an extensive mucous surface. Those who have hitherto written professionally on menstruation are, however, so totally unaware of this important fact, that their works, even the most recent, are replete with cases the true nature of which they do not even suspect—cases in which it is most evident to me that menstruation was modified by positive disease, but which they view as physiological, or as the result of constitutional causes. When treating of the morbid conditions of the menstrual functions I shall endeavor to point out the data by which mere physiological modifications, the result of constitutional or

accidental causes, may be distinguished from modifications the result of actual disease. Although a difficult task, I hope to be able to accomplish it by bringing to bear on the question the facts respecting uterine inflammation which will be previously developed.

From what precedes, it is evident that the term menstruation ought in reality to be applied to the totality of the conditions that co-exist with the maturation and evolution of ovarian vesicles. Until recently, however, the exudation of blood from the uterine organs in the human female, the all but invariable concomitant of this periodical function, having been alone observed, it has been to it only that the term menstruation has been given. The necessary connection between the ovarian and uterine phenomena having only been discovered and established of late years, it is not surprising that the meaning of the word menstruation should have been thus limited. Henceforth, however, it will have to be taken theoretically in its more extended and truer sense, although, practically, we may still be obliged to limit the term menstruation to the uterine element, or the exudation of blood; as it is the ostensible indication and evidence of the changes that are taking place in the ovaries.

It is now universally admitted that the menstrual secretion takes place from the mucous membrane lining the uterine cavity. For one or two days before it commences, in the healthy uterus, a tide of blood sets in towards the uterine organs; and if the cervix uteri is then brought into view, its mucous surface is found greatly congested, and of a deep red hue. When the secretion has commenced, the blood may be seen to ooze *guttatim* from the os uteri. After it has ceased, the tide of blood gradually recedes, and in the course of one, two, or three days, the uterus is restored to its normal condition, the cervix assuming its naturally pale, rosy hue. If the uterus is the seat of disease, the flux to it begins earlier—often a week previous. After menstruation has ceased, there is also, in disease, a great tendency to the perpetuation of the menstrual congestion, the uterus frequently not appearing to have the power to expel the menstrual blood.

Menstruation in the human female oscillates physiologically between great extremes. In other words, it may vary to an extreme extent in its mode of manifestation, and yet these variations may be compatible with health, and with the perfect integrity of the uterine organs. Indeed, there is not a greater difference between the human female and the female of the lower mammiferæ, in which the menstrual function only shows its presence by a congested state of the genital organs and a slight mucous secretion, than there is between different females. Thus, in some, the menstrual flux only shows itself for a day or two, or even for a few hours, throughout life, and is very scanty; whereas, in others, it lasts seven or eight days, and is always so profuse as to be all but hemorrhagic.

The physiological variations of menstruation may be referred to its epoch of first manifestation, to its duration, to the quantity of blood



lost, to the amount of pain experienced, and to the periodicity of its return.

The epoch at which menstruation first sets in, is very variable, but may be said to range between eleven and nineteen or twenty, the cases in which it occurs before or after these ages being rare. The medium age, in temperate climates, according to Raciborski, who deduced it from the analysis of a large number of cases, is about fourteen—a statement which my own experience completely corroborates. There are cases on record, in which menstruation has set in as early even as the third or fourth year, but they can merely be considered freaks of nature. Climate is generally considered to exercise great influence over the epoch at which menstruation appears, and the recent researches of Dr. Tilt<sup>1</sup> seem to favor this opinion. Thus, from the analysis of extensive data obtained from Copenhagen and from India, he finds that the commencement of menstruation averages, in Denmark, sixteen and nine months, and in India thirteen. Dr. Robertson, of Manchester,<sup>2</sup> on the contrary, thinks that the medium age is pretty nearly the same all over the world. Raciborski finds a difference in the medium age of the cases he investigated for the north and south of France, but that difference only amounts to a few months, and would require to be deduced from a larger number of persons, to be definitively accepted. Menstruation generally ceases between forty-five and fifty, but the menopause may occur much earlier or several years later.

The duration of the menstrual flux, and the quantity of blood lost, vary very considerably in different females. The average duration may be said to be about four or five days, but many are only unwell two or three, and with many, again, it lasts six or seven. When menstruation is of short duration, the loss of blood is generally scanty, whereas it is greater when it lasts a long period, not only on account of its longer duration, but also because it generally flows more freely. The influence of climate in this respect also appears to have been much exaggerated. The fact of menstruation being constitutionally of long duration, and profuse, I have found to be a powerful predisposing cause of uterine inflammation. This is owing, probably, to the intensity of the molimen hemorrhagicum, and to the length of time it persists, during which the patient is exposed to many perturbing causes. The intensity of the physiological congestion is evidenced by the fact that, for one, two, or three days before and after menstruation, these females often have a slight white or leucorrhœal discharge, even when in perfect health.

With many females the first manifestation of the menses is unaccompanied by pain. The menstrual flux makes its appearance with scarcely any previous admonition of its advent, and continues to appear without pain or uneasiness; or if pain is present, it is slight, and limited to the first few hours. This is the most favorable mode in

<sup>1</sup> Diseases of Women and Ovarian Inflammation. 2d edition.

<sup>2</sup> Essays and Notes on the Physiology and Diseases of Women. 1851.



which the menstrual function can take place, and the one which affords the greatest guarantee of future immunity from inflammatory disease. It is, however, by no means the rule; with many women, the first advent and the subsequent appearance of the menses, are attended, physiologically, throughout life, with great uterine pain. With some the pain is limited to the first few hours, with others it exists for a shorter or longer period before and lasts throughout the period.

The periodicity of menstruation also varies physiologically to a great extent. I have found that four weeks or twenty-eight days, the lunar month, is the most general term; but the periodical return of the menses may take place at any time between the third and the fifth week. Most authors allow even a greater latitude; but I believe that the constant return of the menses at an earlier or a later period will nearly always be found, on careful inquiry, a pathological symptom, and connected with local disease.

From what precedes it will be perceived that the physiological variations of menstruation—variations quite compatible with health—are so numerous and so great, that it is impossible to lay down any standard by which the integrity of the function can be generally tested. The above fact would much diminish the importance of the changes that occur in the menstrual function in disease, as an element of diagnosis, were it not that this irregularity is not observed, physiologically, in each individual case. In other words, every female has *her own individual standard*, to which she generally remains true throughout her life, unless the uterine organs be the seat of disease, or the general health be deeply modified by some other cause. Once therefore we have ascertained the mode in which menstruation occurs in any particular female, at an epoch when it may be fairly presumed that she is in good uterine health, we are authorized to surmise the presence of uterine or ovarian disease—and, generally speaking, the former—if any marked and permanent change subsequently takes place.

It is the ignorance of this important fact that has filled with errors all existing treatises on menstruation, at nearly every page of which, as I have already stated, cases are narrated as physiological, which I at once recognize as most decidedly pathological. This circumstance, therefore, must greatly invalidate the value of the conclusions at which these authors have arrived, whether statistical or otherwise, with respect to the physiology of menstruation.

## PART I.

### INFLAMMATION OF THE UTERUS AND OF THE UTERINE ORGANS.

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#### CHAPTER III.

##### THE FREQUENCY AND IMPORTANCE OF INFLAMMATION IN UTERINE PATHOLOGY.

INFLAMMATION of the body of the uterus in the acute, subacute, or chronic form, apart from the puerperal state, is not of very frequent occurrence, but inflammation of the cervix, and especially of the mucous membrane which covers it and lines its cavity, is so common as in reality to form a prominent feature in uterine pathology. That such should be the case, is a necessary consequence of the anatomical and physiological conditions in which the uterus is placed.

On reviewing these conditions, we find that the body of the uterus presents a very dense and non-vascular structure in the non-pregnant state, and contains cellular *tissue* in an elementary form only; that the uterine neck is of a less dense structure, is more vascular, indeed all but erectile around the os, and has a cavity distinct from that of the body of the uterus, the mucous membrane of which is studded by numerous mucous follicles. Physiologically we find that, throughout its entire period of vital activity, the non-pregnant uterus has an important function to perform—that of menstruation—which consists, as we have seen, in the periodical secretion or excretion of a certain quantity of blood from the uterine cavity, this excretion of blood coinciding with the separation of a mature ovum from the ovary. This act of menstruation is preceded, accompanied, and followed by determination of blood to the uterine organ, by a kind of molimen hemorrhagicum; so that if a healthy female is examined instrumentally a day or two before the appearance of the menses, whilst they are present, or a day or two after, the vaginal mucous membranes, and more especially that which covers the cervix, are found turgid, and of a deep red color; thus presenting incontrovertible evidence of a considerable degree of passive congestion. When uterine inflammation exists, this congested condition of the uterine organs often extends over a much more lengthened period, both before and after menstrua-

tion, and is necessarily greatest in the most vascular part of the uterus, that is, in the cervix, and its lining mucous membrane, studded as it is with innumerable mucous follicles.

The periodical return of menstruation taking place, in the great majority of women, about every fourth week, and the menses generally continuing four or five days, we find that the menstrual molimen hemorrhagicum must last with most women from seven to ten or twelve days. It thus appears, that during one-third or one-fourth of each month the uterus of a menstruated female, and especially the mucous membrane, is physiologically in that condition which, throughout the economy, immediately precedes inflammation, viz., a state of congestion. When, on the other hand, we consider that the arrest of a secretion from a congested organ is one of the most frequent causes of inflammation, and how very many causes there are that can arrest or modify the menstrual flux, it need not be a source of surprise that inflammation should occur in the uterus and its neck apart from physical lesions, but rather a source of astonishment that it should not occur more frequently than it actually does.

With some females, moreover, the uterus seems to be naturally a weak organ. This peculiar delicacy of the uterine system is indicated by the difficulty with which menstruation is at first established, by its irregularity during the first years, by its scantiness or abundance, by the frequent presence of leucorrhœa before and after menstruation—an evidence of congestion of the uterine system—and by the existence of pain either for the first few days, or for the entire period. These peculiarities of menstruation, although apparently morbid, are evidently natural with some females, as I have already stated, and quite compatible with the absence of disease of any kind. They characterize a tribe, as it were, of the human race; a class of females who are more liable than others, in the course of their uterine life, to inflammatory diseases of the uterus, and to all the accidents to which these diseases give rise.

It would seem as if, with them, either the menstrual “molimen hemorrhagicum” was so great as to distend beyond measure the uterine tissues, thus giving rise to extreme congestion and pain, or as if the uterus was so peculiarly sensitive, that even the physiological menstrual congestion could not take place without its sensibility being anomalously raised.

These anatomical and physiological considerations explain how it is that inflammation of the neck of the uterus, as I have stated above, is a frequent instead of a rare disease, as it is supposed to be by our most eminent uterine pathologists. Inflammation of the *body* of the uterus in the unimpregnated state is, in truth, a rare disease; but inflammation of the *neck* of the uterus, on the contrary, is an exceedingly common one; so common, indeed, that the very great majority of the females who apply for relief when laboring under *confirmed* uterine symptoms, physical or functional, will be found, on careful examination, to be suffering from its existence. Leucorrhœa, dysmenorrhœa,

menorrhagia, amenorrhœa, irritable uterus, prolapsus, &c., are generally studied independently of any such origin; but, in reality, in nineteen cases out of twenty, when confirmed and intractable to treatment, they are the immediate result of inflammatory disease of the cervix of the uterus, of the body of that organ, or of both combined. They are, therefore, only to be effectually treated by attacking the primary disease to which they owe their existence. Leucorrhœa, more especially when chronic, and persisting during the entire interval of menstruation, is nearly always the result of inflammation, with or without ulceration of the uterine neck and of its cavity; but a large proportion of the generally-reputed functional diseases of the uterus will also be found, if submitted to severe scrutiny, assignable to the same cause. I do not include chlorosis and hysteria, because they are not diseases of the uterine system. Chlorosis is a disease of the blood, and the modifications which occur in menstruation are merely the *result* of debility and disordered sanguinification. Hysteria is a disease of the nervous system, which is very often occasioned by disease of the uterus, but which is not necessarily connected with it. Irritable uterus is merely another name, in most instances, for uterine inflammation. All the symptoms which Gooch, and the writers who have copied him, give as characterizing irritable uterus, may generally be referred, without hesitation, to such disease.

I am in a position to prove, by statistical data, that inflammation of the lower segment of the uterus is really as frequent, and plays as important a part, in uterine pathology, as I assert. During the last few years, I have kept a careful register of all the cases of uterine disease which I have treated at the Western General Dispensary, with which Institution I am connected as physician-accoucheur. The Western Dispensary is one of the largest institutions of the kind in London, nearly ten thousand patients being annually treated by its medical officers. My patients consist of those who present uterine symptoms, and are either addressed to me by my colleagues or by the house-surgeon on registration. The cases, therefore, present the same origin, and must be of the same nature, as those that fall under the notice of the physician-accoucheur at other similar institutions—at Guy's Hospital, for instance—where only one case of inflammation of the cervix in fifty (twenty in a thousand!) is stated by Dr. Ashwell to occur.<sup>1</sup> Nothing can be more dissimilar than the results at which I arrive on analyzing my cases, three hundred in number. I find that two hundred and forty-three were suffering from decided inflammatory disease of the cervix or of its cavity, and that in two hundred and twenty-two ulceration was present; either in the incipient form of excoriation, or in the more advanced state of granular ulceration.

As the thousand cases of so distinguished a physician as Dr. Ashwell were taken from exactly the same class of patients as my own, the extraordinary discrepancy of the results obtained by direct

<sup>1</sup> Dr. Ashwell's *Treatise on the Diseases Peculiar to Women*. Second Edition p. 184.



observation cannot fail to arrest the attention of practitioners, more especially as the question at issue is not one of secondary importance, but really involves the whole truth of the doctrines which I have submitted to the profession.

These three hundred cases were all attended by me at the Dispensary between the first of July, 1844, and December, 1848. The details of each case were carefully taken down by myself, in the presence of the patient, and the description of the local state of the uterine organs was always written immediately after examination—the examination being invariably carried out before any note of the local state of the patient was made. As the results at which I have thus arrived, with reference to the comparative frequency of the various forms of uterine disease, are quite novel, and perfectly subversive of all existing ideas respecting uterine pathology, I have given a brief tabular summary of these cases in an Appendix.

The analysis of the cases which I have seen and attended in private practice, leads to precisely the same conclusion. But as it might be urged, from the nature of my writings, that I am most likely to be consulted on this particular form of uterine disease, I have thought it better not to refer to them for statistical purposes.

The most cursory survey of the cases contained in the Appendix will show, that although the real cause of the morbid symptoms was the existence of local inflammation, yet that the *apparent* nature of the disease was most varied. Some patients complained of leucorrhœa, some of dysmenorrhœa, some of irregular menstruation, some of flooding, some of backache, some of bearing-down and prolapsus, and some merely of debility and anemia. The true nature of the case had to be sifted out—as generally occurs: what was only a *symptom* being considered the disease.

Since the publication in the second edition of this work (1848) of the cases contained in the Appendix, various statistical records of a similar nature have reached me, or have been published by other writers. In some the results obtained have been the same. In others the proportionate number of cases of inflammation and ulceration has been less. Such differences merely imply a less accurate or less scrupulous choice of cases for examination. If the medical practitioner scrupulously refrains from examining any but cases of a chronic confirmed character, cases where the uterine symptoms have resisted time and constitutional and non-surgical treatment (hip-baths, injections, rest, &c.), he will assuredly obtain results similar to myself. If, on the contrary, he unwarrantably examines females merely suffering from slight temporary disturbance of the uterine system, the results will be far different.

Although the doctrine—that inflammation of the uterus and inflammation and ulceration of the neck of the uterus are, in the majority of cases, the real causes of morbid uterine changes and symptoms—may at first appear singular to those whose knowledge of uterine pathology is derived from the classical treatises of the day, a little

reflection will show that such must be the case. By admitting this important pathological fact, we are only bringing the uterus within the pale of the laws of general pathology—laws that regulate disease in the rest of the human economy. In the history of the diseases of all the animal structures and organs, we find inflammation playing the principal part. Thus it is with the brain, the lungs, the liver, the kidneys, &c. Take away from a treatise on the diseases of any of these organs all that relates to inflammation and its sequelæ, and how small a space, comparatively, would the remainder occupy. These remarks apply more especially to inflammation of the mucous membrane. On referring to the general pathological laws which regulate disease in each of the separate tissues which, by their combination, constitute the animal economy, we find that wherever there is a highly organized mucous membrane, the inflammatory lesions, acute or chronic, to which that mucous membrane is liable, constitute the principal feature in the pathology of the organ to which it belongs. Parenchymatous and serous inflammation, morbid growths, cancerous degeneration, and mere functional derangements, are everywhere infinitely more rare than these mucous membrane lesions. Thus, in the lung, how infinitely more frequent are bronchitis and the emphysematous or asthmatic conditions which it often entails, than pneumonia or pleurisy—that is, than inflammation of the substance and of the serous covering of the lungs;—or than morbid growths, or cancerous degeneration; or than mere functional derangement. The same may be said of the throat, of the eye, of the intestines, &c. In each organ, the mucous membrane has its own individual peculiarities and liabilities, depending on structure, on functions, and on physiological exposure to offending causes; but still the general law is the same in all, as regards the comparative frequency of the diseases to which they are liable.

How is it, then, that in our modern treatises on the diseases of the non-pregnant uterus—an organ exposed to so many morbid causes—inflammation is considered a rare malady, and discussed and dismissed in a few pages; whilst nineteen-twentieths of the work are taken up with the history of presumed functional affections, of tumours, of cancers, &c.? To this question only one answer can be made. It is because the true pathology of the uterus has been completely overlooked. In reality, inflammation is, comparatively, quite as frequent in the uterine system, at least in its peripheric region, as in other organs. Its existence has been in a great measure overlooked, merely because its symptoms are obscure, and because its diagnosis has been impeded by various causes, social and moral, the more important of which I have already attempted to elucidate.

Having by these observations prepared my readers for the facts which I have to bring forward, I shall at once enter into the investigation of the phenomena presented by inflammation in the non-pregnant uterus. As my descriptions are drawn from the actual observation of disease, I may safely assert that those who, following my

example, study nature, will find that I am a faithful interpreter of her morbid manifestations.

From the great difference which exists between the anatomical and physiological condition of the body and the neck of the uterus, it will be at once understood that it is impossible to unite in the same description the history of inflammation in the two regions. I intend therefore, firstly, to examine inflammation in the body of the non-pregnant uterus; and subsequently to study the same disease in the cervix uteri, together with its numerous and important sequelæ.

It must, however, be borne in mind that this division is an artificial one. The symptoms and general reactions of inflammatory disease of the uterus, whatever the region affected, are to a great extent the same. What is said of one, therefore, may be applied, within certain limits, to all. This remark applies with full force to the section on inflammation of the neck of the uterus, in which, more especially, the symptoms and reactions of uterine inflammation are analyzed. The great frequency of inflammatory disease in this region of the uterus, and the importance of the cervix in diagnosis and treatment, have led me to develop in this section of the work what may be termed the general pathology of uterine inflammation.

After giving a careful and complete description of inflammation of the uterine neck, considered generally, I shall briefly examine inflammation of the uterine neck in each of the different epochs of female life—viz., in virgins; in pregnant women; in the puerperal state; and in women who have ceased to menstruate. I shall then give the history of vulvitis and vaginitis; of inflammation of the ovaries; and of abscess of the lateral ligaments; concluding this part of the work with the treatment of these various forms of inflammatory disease.

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## CHAPTER IV.

### ACUTE METRITIS—CHRONIC METRITIS—INTERNAL METRITIS.

ACUTE inflammation of the non-impregnated, non-puerperal uterus, is rather a rare disease. This is a fact which is generally admitted by uterine pathologists. I believe, however, that acute metritis will be found of even less frequent occurrence than it is now supposed to be, when it is no longer confounded with acute ovaritis and with inflammation of the lateral ligaments—a mistake at present frequently made, even by experienced practitioners.

The rarity of acute metritis is the natural result of the peculiar dense, fibro-muscular, slightly cellular structure of the body of the uterus. Tissues of this nature being but slightly susceptible of inflammation as a necessary consequence of their structure, if the uterine



system is exposed to the causes of inflammation, its periphery—the mucous surfaces, the cervix, the ovaries, or lateral ligaments—which are much more highly vitalized, are generally the regions attacked. When the state of the uterus is modified by the extraordinary development and vitalization that occur during pregnancy, or during the increase of a large fibrous tumor, we notice a very different state of things. If the uterine system is then exposed to the causes of inflammation, especially after parturition, the body of the organ is frequently attacked; and metritis observed under these circumstances manifests a degree of intensity and a virulence unknown in the unimpregnated condition of the uterus, but quite consistent with its modified structure. In reality, the uterus is anatomically a perfectly different organ when unimpregnated and when developed by impregnation; and its pathology is as different in the two conditions as its anatomical condition. The numerous and wonderful changes which the uterus undergoes during its physiological life are, indeed, a subject for admiration, and impart extreme interest to the study of its diseases.

*Seat.*—Acute metritis generally appears to affect the entire body of the uterus, although, no doubt, it may attack a portion only of its tissue. Paulus Ægineta and other ancient writers describe metritis as occupying sometimes the anterior uterine wall, and sometimes the posterior, sometimes the sides, and sometimes the fundus or apex, the symptoms varying in each case; and nearly all subsequent authors have copied their description. The distinction is perfectly correct if applied to chronic metritis, in which each of these regions may be separately affected; but it is not, I think, altogether applicable to acute metritis. In all, or nearly all the cases of acute metritis that I have seen, the entire uterus, including the cervix, was apparently affected. The inflammation might perhaps be more intense in one region than in another, but this is a point rather difficult to determine, as I shall presently explain, and, moreover, of little practical importance. Acute inflammation in the unimpregnated uterus seldom extends to the peritoneal investing membrane, as so often occurs in puerperal inflammation. Indeed, I only recollect having seen a very limited number of instances in which the symptoms of peritoneal inflammation were so decidedly marked as to render the existence of peritonitis certain, although cases of the kind are mentioned by authors as not uncommon. I have, however, repeatedly been called in consultation to see cases in which the peritoneum was erroneously supposed to be compromised, a fact which may explain the opinion alluded to. The frequent participation of the peritoneum in the inflammation that attacks the womb after parturition, is probably owing, in part, to changes in its texture and nutrition consequent on the development of the gravid uterus. Like that organ, in all probability, it then becomes more vitalized, and more liable to inflammation.

As predisposing causes to acute metritis, and to inflammation of the uterine system generally, we may mention youth, a plethoric temperament, but more especially the peculiar susceptibility of the uterine



system which I have mentioned as characterizing from the first so many of the females who are attacked in after-life with uterine inflammation in some of its varied forms. This physiological condition, which may exist, as we have seen, independently of any physical imperfection, lesion, or disease, is evidently one of the principal predisposing causes of uterine inflammation.

The chief causes that tend immediately to induce acute metritis, are arrested menstruation, sexual excesses, and the extension of chronic inflammation from the neck of the organ. To these I would also add, as occasionally causing acute inflammation, all kinds of surgical interference with the uterine organs, such as the cauterization of ulcerations of the cervix, the use of vaginal injections, of pessaries, especially such as pass into the uterine cavity, &c. Any influence that suddenly arrests menstruation, especially in its incipient stage, such as exposure to cold or damp, wet feet, or mental emotions, may give rise to acute metritis. These latter causes are generally considered to be capable of occasioning acute inflammation, even in the interval of menstruation. I have very seldom, however, observed it in the unimpregnated uterus apart from the menstrual period, except as the result of some physical injury; of a blow, of a severe fall, or of surgical interference with the cervix. This latter cause of inflammation generally acts, it must be remembered, on an organ, the vitality of which has been raised by the existence of inflammatory disease, generally of a chronic nature. Although of rare occurrence, acute metritis having this origin is occasionally met with by those who have great opportunities for observation.

*Symptoms.*—The symptoms of acute metritis are local, and general or sympathetic. The most prominent local symptom is severe pain, situated deeply in the hypogastric region, above and behind the pubis, irradiating into the ovarian region, and sometimes down the thighs, accompanied by a very disagreeable sensation of pelvic weight and uneasiness. There is also, generally speaking, severe pain in the lower lumbar, or lumbo-dorsal region. The cutaneous surface of the inferior abdominal region, from the umbilicus to the groin, is very sensitive to the touch, but slight pressure on the abdominal parietes does not very much exacerbate the deep-seated pain, even when made immediately above the pubis. On examining digitally, the vagina is generally found hot and dry, from arrested secretion; the cervix is swollen, and often, but not always, sensitive to the touch. The body of the uterus is no doubt always enlarged, but any attempt to appreciate its size, by raising or displacing it, through the medium of the cervix, is generally attended with too much pain to be persisted in. The inflamed uterus is, indeed, so exquisitely painful, that the slightest pressure exercised directly upon it through the vagina, occasions severe pain, often giving rise instantaneously, to a sensation of nausea. Notwithstanding this excessive sensitiveness of the uterus, it is possible, in every case, to ascertain, without putting the patient to any great amount of pain, that it is the uterus itself which is the seat of inflam-

mation, and not the adjoining tissues. The sensitive tumor is the immediate continuation of the cervix, occupies the median line, and is equally painful and evident on the right and on the left of that line; unless, however, the uterus naturally lies transversely from right to left, as is sometimes the case. When this is the case, the enlarged organ extends more to the right than to the left side. This is an important practical point to determine, as in inflammation of the lateral ligaments the tumor formed by the inflamed tissues is generally applied, annexed as it were, to the side of the uterus, so as only to form one mass with it. Owing to the great sensitiveness of the uterus, if moved, directly or indirectly, the patient is unable to walk, or even to stand; and when sitting up in bed (a very painful position), the body is generally so inclined as to take off all strain from the abdominal region. When lying down, the patient remains on her back, that being the position in which the uterus presses least on the surrounding organs. The passage of the feces through the rectum is often attended with very great pain, owing to its position immediately behind the uterus. This is more especially the case when the motions are constipated. They are then sometimes coated with mucus, showing an irritable state of the rectal mucous membrane. There is also, frequently, considerable irritation and pain about the bladder, accompanied by dysuria, more or less marked. The vascular and nervous connection between the uterus, the rectum, and the bladder, is too intimate for these organs not all to suffer when one of them is severely inflamed.

In acute metritis there is, generally speaking, no discharge at first, the vaginal secretion being arrested, as well as that from the uterine cavity. Sometimes, however, when the inflammation extends to the lining membrane of the uterus, there is a more or less abundant sero-sanguinolent secretion. On the decline of the inflammation, a copious discharge, of variable nature, will often take place.

Should the attack of metritis occur during menstruation, the menstrual flux is all but invariably arrested, and this arrest is generally considered by the patient to be the cause of her illness. Once it has stopped it seldom reappears. Should menstruation reappear after one, two, or more days' cessation, it is a very favorable symptom, which generally coincides with the gradual subsidence of the inflammatory action.

Acute metritis is always accompanied by considerable febrile reaction. The skin is hot, the pulse quick, but not small and thready, as when the peritoneum is compromised. The tongue is covered with a white fur, and continued nausea is almost invariably experienced, but it is seldom carried so far as to produce vomiting, as in metro-peritonitis. Thirst, headache, and want of rest, are also present, as in all febrile diseases; and the bowels are constipated. The breasts are often sympathetically affected, one or both becoming swollen and painful.

Acute inflammation of the uterus is stated by most authors frequently

to give rise to hysterical symptoms. I have seldom, however, found this to be the case; and when they are present, I have generally observed them to occur in young females previously subject to hysteria.

All the symptoms above enumerated are not met with in every case, nor do they always manifest themselves with equal intensity. Sometimes obscure pain in the lower hypogastric region, with slight febrile reaction, alone is experienced; and it is only by careful digital examination that we ascertain that the body of the uterus is the seat of acute inflammatory action.

*Progress and Termination.*—Generally speaking, the inflammation gives way to treatment in from five to ten days, resolution taking place. Owing to the elementary nature of the cellular tissue contained in the body of the uterus, there is seldom any formation of pus in the substance of the uterus, although it sometimes occurs. If the purulent collection is near the uterine cavity, it empties itself therein, and is evacuated through the cervix. When the matter forms near the outer parietes, the inflammation appears to be generally propagated to the cellular tissue contained between the lateral ligaments, and the pus finds its way out of the pelvis, as when the inflammation and supuration have primitively existed in those ligaments. The propagation of acute inflammation from the uterus to the lateral ligaments is so often observed, as we shall hereafter see, that it may be considered one of the natural terminations of acute metritis.

When acute metritis does not terminate by resolution, or by extension to the lateral ligaments, it passes into the chronic state, and then generally becomes partial, or confined to one region. I have never seen acute metritis in the unimpregnated uterus terminate fatally, when uncomplicated with acute peritonitis, and there appear to be but few cases on record in which such has been the case. This is no doubt owing to inflammation seldom extending to the peritoneum, and to the uterus not having functions to perform necessary to the preservation of the individual. A vast amount of uterine disease may consequently exist without life being directly endangered.

*Prognosis.*—Acute metritis, apart from the puerperal state, being very rarely a fatal disease, there is but little to fear for the life of the patient, provided proper remedial measures be adopted to subdue the inflammation. It may, however, especially if not treated with sufficient energy and promptitude, by extending to the peritoneum or by passing into the chronic stage, prove fatal, or the source of very serious and very prolonged evils. There are few diseases more fatal than peritonitis, and few that occasion more suffering than chronic metritis and chronic inflammatory disease of the lateral ligaments.

*Diagnosis.*—Although it be by no means difficult to recognize acute metritis, even if present in a subdued form, its existence is not unfrequently passed over unperceived. Many practitioners are satisfied with the mere knowledge that there is inflammation existing in the lower abdominal region, and treat the disease on general antiphlogistic principles, calling it "inflammation of the bowels." Treatment, how-



ever, which is based on such obscure notions of the real state of the patient, is apt to fall short of the necessities of the case, to partially subdue the morbid symptoms only, and to leave behind the seeds of future and more intractable disease. It is of the greatest importance in pelvic inflammation, as in inflammation of other regions, that the precise seat of the morbid action should be determined, and that no means of diagnosis should be neglected which can give the necessary information.

The diseases with which acute metritis is most likely to be confounded, are inflammation of the bladder and inflammation of the lateral ligaments, as they both give rise to the same local pains, and to the same general reactions. In addition, however, to the symptoms peculiar to each, which differ considerably, the seat of the disease may be at once ascertained by a careful digital examination. By passing the forefinger of the right hand into the vagina, upwards, behind and above the pubis, the patient lying on her back, and pressing with the fingers of the left hand over the lower abdominal region, the state of the bladder previously emptied may be directly ascertained. The bladder is then merely separated from the fingers by the abdominal and vaginal parietes. If it is inflamed, pressure will occasion great pain, whereas, if there is merely sympathetic irritation, the pain on pressure will be but slight. I have thus ascertained, in several obscure cases, that acute symptoms, supposed to be the result of uterine inflammation, were really occasioned by cystitis. In one instance, a young unmarried lady had fallen on some stones whilst bathing. The urethra was bruised; retention of urine followed the swelling of the contused parts, and the bladder not being relieved for above twenty-four hours, owing to the patient concealing her sufferings, cystitis ensued. The inflammatory symptoms, which were very intense, irradiating all over the pelvic region, threw considerable obscurity over the case. But all doubt as to the nature and limits of the disease was cleared up by a careful vaginal examination: the uterus was small, free from sensibility, and readily movable, whilst the bladder was inflamed, and acutely sensitive. In inflammation of the lateral ligaments, the pain lies more to one side of the median line, and the finger passed upwards by the cervix, detects the inflammatory tumor lying on one side of the uterus.

*Pathological Anatomy.*—Acute metritis in the unimpregnated uterus is, as we have seen, so seldom fatal, that there are scarcely any elements to be found for a description of its pathological anatomy. Thus Boivin and Duges, in their treatise on the Diseases of the Uterus (vol. ii. p. 240), say that the state of the uterus of a female who had died of acute non-puerperal metritis, would *probably* be pretty much the same as in fatal puerperal metritis. As I have not seen a case of the kind, I can only repeat this assertion, and say that the uterus would probably be found tumefied and softened, more vascularized than in the normal state, and of a reddish-white hue, with limited infiltration of pus.



## CHRONIC METRITIS.

In describing chronic metritis, I shall likewise confine myself to the consideration of the disease in the body of the uterus. Although the distinction is not made by writers on uterine diseases, it is of extreme practical importance. It is in a great measure because it has not been adopted, that there is not to be found a correct description of this form of uterine inflammation. Some of the leading *symptoms* of chronic metritis are erroneously attributed by many uterine pathologists to the displacements of the uterus which it *occasions*; and this has likewise much contributed to obscure its history, especially of late years.

*Seat.*—Chronic inflammation of the body of the uterus, in contradistinction to acute metritis, is more frequently partial than general; that is, it generally occupies a limited extent only of the uterine tissue. In its partial form, it is observed, in nine cases out of ten, in the posterior wall of the uterus, in its inferior region, immediately adjoining the base of the cervix. The predilection of chronic metritis for this particular region, as I have already stated, is probably owing partly to the band of longitudinal muscular fibres which pass into the posterior region of the cervix from the posterior wall of the body of the uterus; for chronic metritis is generally the result of extension to the uterus of chronic inflammation of the cervix. It may, however, exist in the anterior uterine wall, or laterally.

*Causes.*—Chronic metritis sometimes occurs as the termination of acute metritis, whether puerperal or non-puerperal; but I believe it to be more frequently, as above stated, the result of the gradual extension of chronic inflammation of the neck to the body of the uterus, and the product of years of uterine disease, perpetuated by general constitutional conditions. Indeed, throughout the economy, when inflammation passes from the acute into the chronic state, and perpetuates itself in this form, it does so under the influence of organic conditions of morbid constitutional vitality.

*Symptoms.*—Chronic metritis is a malady the symptoms of which vary considerably in intensity, according as the patient is examined during the quiescent state of the uterus—that is, in the interval of menstruation, or during the presence of the menstrual flux, and for a few days before and after. Although a most distressing and wearing affection, it is not altogether incompatible with what a superficial observer might consider tolerable health, especially during the interval of menstruation. At that time, indeed, there is scarcely ever any febrile reaction, and the local uterine symptoms are much mitigated. The general symptoms are then not unfrequently confined to functional derangement of the stomach, of the nervous system, and of the general nutrition, the result of the sympathetic reaction of the diseased uterus on the economy at large. A very different state of things, however, is generally observed when the molimen hemorrhagicum that precedes menstruation sets in. The uterine inflammation, pre-

viously latent, again becomes evident, both the local and general indications of its existence reappearing with renewed intensity.

When the uterus or any part of it is chronically inflamed, the patient experiences a constant dull, aching, deep-seated pain in the lower hypogastric region, just above and behind the pubis, and in the right or left ovarian region, or in both; oftener in the left than in the right. There is also a dull, aching pain in the lumbo-sacral region, which is even more universal and more constant than the abdominal and pelvic pains. These pains extend irregularly round the hips and down the inside of the thighs; and are generally accompanied by a deep-seated sensation of pelvic weight and heaviness. Walking, and indeed, every kind of motion, is attended with an exacerbation in the pain, owing to the shocks which are conveyed to the inflamed uterus. Going up and down stairs is more especially painful; and to some even the motion of the most gentle vehicle is insupportable. These pains and aches are more especially marked before, during, and after menstruation. They are then often quite agonizing, and render any motion unbearable.

On examining the womb digitally, in addition to the evidence of co-existing disease of the cervix which is usually detected, if the inflammation is general the entire uterus is found enlarged and sensitive on pressure. When it is partial only, the finger passed carefully behind, before, and on the sides of the uterus, carrying the cul-de-sac of the vagina before it, so as to explore its walls, readily discovers the seat of the disease. Instead of the finger passing from the base of the uterine neck on to a smooth insensible surface, a continuation of the plane formed by the cervix, it meets with an exceedingly sensitive elevation or protuberance, sometimes quite regular, sometimes irregular and knotty. In the latter case, however, the nodosities that diversify the tumefied surface are all perfectly spherical; there are no knife-back ridges or sharp irregularities. Pressure on this tumefied surface is exceedingly painful. Occasionally there is no perceptible tumefaction, but merely an exquisite sensitiveness in a limited region of the uterus; pressure giving rise to the sensation of sickness. The womb is, in most instances, quite movable, but the attempt to move it is attended with great pain.

The uterus is not bound down and fixed in a certain position, like the liver or the kidneys. In order, no doubt, that it may be able to enlarge during pregnancy, it is loosely suspended in the pelvic cavity, and is kept in its normal position as much by the contractility of the vagina and the pressure of the surrounding organs, as by its ligaments. As a necessary consequence, the partial tumefaction of the walls of the uterus that follows chronic inflammation, is invariably attended with greater or less displacement of the body of the organ, the nature of the displacement varying according to the seat of the tumefaction. If the posterior wall is the seat of inflammation and enlargement, as is generally the case, the additional weight in this region causes the body of the uterus to fall backwards, towards the cavity of the sacrum.

The uterus, in a word, is retroverted, and the cervix is generally anteverted, that is, directed upwards towards the pubis. The finger has to be passed deeply into the pelvic cavity towards the sacrum, to find the root of the cervix and the tumefied posterior uterine wall which is lying on the rectum.

In the form of uterine retroversion that occurs during pregnancy, the anteverted cervix approximates more and more to the pubis as pregnancy advances, until it presses on the urethra, and impedes the flow of urine. This is not often observed in retroversion from inflammation, the increase in volume of the body of the uterus being, in most instances, comparatively slight. Moreover, in the latter form of retroversion, the cervix often remains in its usual position, and is not anteverted, notwithstanding the displacement of the uterus. In this case, it forms an angle with the body of the uterus, which is said to be retroflexed.

When it is the anterior uterine wall that is inflamed and tumefied, the uterus may fall forwards, especially in married females, and there is anteversion of the body of the organ, which, instead of gravitating backwards into the sacral cavity, falls forwards towards the pubis, the cervix being retroverted. If this is the case, the anterior vaginal parietes are often so stretched by the extreme retroversion of the cervix, that it is difficult to examine digitally through it the anteverted uterus, so as to ascertain satisfactorily the presence of tumefaction and enlargement. This, however, may be accomplished with care and attention, the bladder being previously emptied; or, at least, the existence of a limited painful region may be ascertained, which, coupled with the displacement and the other symptoms, is conclusive as to the existence of chronic inflammation and enlargement. The most marked cases of anteversion of the inflamed uterus are those in which the natural anterior curvature of the uterus, described at page 26, is, congenitally, very decided. I have known cases in which the inflamed and enlarged uterus presented the shape of a crescent, the cavity turned towards the pubis; evidently through the exaggeration of this condition.

When the uterus is retroverted and much enlarged, it generally rests directly on the rectum, and constitutes a mechanical obstacle to the passage of its contents. Thence the accumulation of feces above the uterus, and obstinate constipation, accompanied by severe bearing-down. Thence, also, as in acute inflammation, extreme uterine pain, along with sickness, when the bowels are moved, either spontaneously or from purgatives, owing to the feces lifting up the womb as they pass. From the same cause, even the injection of a little water into the bowel is often attended with extreme pain. This state of things is likewise accompanied, in a great number of cases, by congestion, or even subacute inflammation of the mucous membrane lining the rectum or colon, as evidenced by the secretion of large quantities of muco-pus, and of pseudo-membranous shreds and casts that are passed along with the feces. Muco-pus thus passed, however, must not be



confounded with that which escapes from the vagina at the time the bowels are moved—a mistake which the patient frequently makes. There is also, very often, considerable irritation of the bladder, of its neck, and of the urethra. This irritation is partly the result of uterine displacement, which acts more or less on the bladder, owing to the anatomical connection between that organ and the uterus, partly the result of the irradiation of irritation or inflammation from the uterus to the surrounding organs, and partly the consequence of a morbid state of the urinary secretions.

Partial chronic metritis may, no doubt, be confined to the lateral regions of the uterus, apart from disease of the lateral ligaments, but I scarcely recollect having met with a clear instance of the kind. Were chronic inflammation to be thus localized, the symptoms would be the same, although the displacement of the uterus would probably be more or less modified, according to the laws of gravity.

In chronic metritis there is not, necessarily, any vaginal discharge. Nevertheless, a muco-purulent or sanguineous secretion is very frequently observed, owing to the usual co-existence of inflammation of the vagina and cervix. But even in the absence of such a complication, there is generally a white or transparent leucorrhœal discharge. In some cases, for one or more days before and after menstruation, there is a very peculiar dark-brown discharge, evidently composed of a combination of mucus and blood. The white mucus is principally found covering the cervix and upper portions of the vagina, and may be abundant, even in the absence of vaginal inflammation, owing to the very congested state of the mucous follicles, the result of the uterine inflammation. Sometimes, however, it appears externally. The transparent glutinous mucus is secreted, as we have seen, by the mucous follicles which line the cavity of the cervix. The dark mucoso-sanguinolent secretion is evidently thrown off by the lining membrane of the uterine cavity, and possibly from the inflamed portion only, on the approach of, or after menstruation, when the uterus is turgid with blood. Its dark chocolate color is owing to the presence of blood-corpuscles, as demonstrated by the microscope.

Menstruation is generally delayed and irregular, although sometimes it remains natural. When it occurs it all but invariably aggravates the state of the patient, exaggerating all the symptoms. The weight of the uterus is increased by the molimen hemorrhagicum which accompanies the menstrual flux: and the displacements previously existing, the result of morbid increase of weight, are thereby rendered greater and more evident. In some cases, indeed, I have seen displacements, especially retroversion, occur merely during menstruation. As the uterus filled with blood at the menstrual epoch and became heavier, it would fall over and become retroverted; reverting again to its normal position a day or two after menstruation, when physiologically relieved of the menstrual flux. The uterine, ovarian, and other pains are increased. The menstrual flux itself is generally, but not always, diminished in quantity, and irregular in its flow, stopping



for a longer or shorter time, to again begin, with or without uterine tormina. Thus, very often, especially in females who are in health abundantly unwell, it will last several days, then stop for one or two, and subsequently recommence. The blood itself is clotted, and darker than is normal, and the passage of the clots is often preceded by severe uterine pain.

When menstruation is over, in chronic metritis, the congestion which accompanies it seldom subsides in the following forty-eight hours, as is physiologically the case. The uterus remains congested, loaded with blood, which assumes more and more the character of venous blood, and evidently becomes a source of irritation to the uterine nerves, thereby rousing the uterine sympathies, and reacting on the entire economy. When this is the case the termination of menstruation only gives temporary relief. Gradually the local and general symptoms of uterine irritation return, and a period of great suffering and distress follows, which often lasts until within ten days or a week of the following period. When the neck of the uterus is instrumentally brought into view it is generally found congested, more or less livid. On the application of leeches, the first that fall are found to contain black venous blood, whilst those that fall later, when the circulation is relieved, yield blood of a brighter and more florid hue.

The whole train of symptoms thus resulting from uterine congestion, is likewise often observed, in chronic metritis, several days, or even a week, before menstruation. When this occurs, it is that the usual physiological congestion which immediately precedes menstruation is antedated through the influence of the uterine disease. Thus, the patient may merely have a few days of comparative ease between the menstrual periods.

Uterine congestion, as characterized above, may be merely temporary, and subside as the diseased state of the uterus gives way to treatment. It may, on the contrary, perpetuate itself from month to month, or even from year to year, long after all other evidence of uterine disease has been removed; and that not only after chronic, but also after acute metritis. It would seem in these cases as if the uterus had been weakened by the previous inflammation, and had lost the power of contracting and of expelling the menstrual blood. The fact of a slight abstraction of blood by leeches generally relieving the congestion until the next period, seems to imply that such is the true explanation of this very common form of uterine congestion. When not relieved, naturally or artificially, it appears to have a tendency to extend to the pelvic and abdominal venous circulation. Thence a host of secondary symptoms of disturbed circulation, cystic, renal, intestinal, hepatic, &c.; the true origin of which is constantly overlooked in practice.

The presence of uterine congestion, under whatever circumstances it occurs, is often accompanied by congestion of the semi-erectile tissues of the vulva and vaginal outlet. Its existence in this region is re-

vealed to the patient by a sensation of heat or fulness, or of local flushing, very similar to that so often experienced in the face in uterine disease.

*General Symptoms.*—The countenance of a person suffering from chronic uterine inflammation is generally pale and sallow, and nearly always offers a very marked expression of pain and languor. It has long been remarked that patients laboring under chronic uterine disease present a peculiar cast of features, to which the term uterine has been applied, but in none is the "*facies uterina*" more indelibly impressed than in those laboring under chronic metritis. It is more especially during the periodical exacerbations of the inflammatory symptoms which menstruation occasions, that this peculiar expression is remarked. Although scarcely ever entirely absent, even in the most quiescent state of the inflamed uterus, it then becomes so obvious as to strike the most indifferent. With nearly all my patients thus affected, I can tell, the moment I enter the room, by the physiognomy alone, if menstruation is impending or has commenced.

The pallidness of the countenance in chronic metritis is often modified, on the slightest emotion or excitement, by intense flushing, which gives to the patient's countenance for the time the hue of health, and deceives a superficial observer as to the state of the sufferer.

There is generally considerable emaciation. This, however, is not always the case; or the emaciation may be only comparative, so as not to be perceived by those who have not known the patient in better health.

An exceedingly general, and, in a diagnostic point of view, valuable symptom, is nausea. When the inflammation is severe, nausea will exist continually, presenting, however, a decided exacerbation at the monthly period. If, on the contrary, the disease is not so severe, or has been mitigated by treatment, the nausea may only be present during the periodical exacerbation of the disease. It is occasionally carried so far as to produce sickness, and is generally sufficiently great to be attended with loathing of food. Nausea appears to me to be peculiarly characteristic of chronic inflammation of the body of the uterus, which it nearly always accompanies, whilst in chronic inflammation of the cervix it is often absent. This I find to be so generally the case, that when nausea is present in chronic inflammatory disease of the cervix, I presume that the body of the uterus is probably more or less compromised, even if I cannot satisfy myself, by digital examination, of the extension of inflammation to that region.

In addition to the above symptoms, patients suffering under chronic inflammation of the uterus present, to a greater or lesser degree, the symptoms which are observed when the health is broken down under the influence of all chronic affections. Thus they complain of intense headache, disordered vision, partial deafness, want of sleep, and disagreeable dreams; of loaded tongue, loss of appetite, flatulence, and heartburn; of palpitations, cardiac pain, and occasional feverishness. The urine is nearly always loaded with lithates, and sometimes with

other morbid products. In a word, all the functions which are under the influence of the organic system of nerves, and nutrition generally, appear sympathetically to suffer.

The most marked sympathetic reaction, however, is that which the stomach evinces. The intimate connection between the stomach and the body of the uterus is shown, as we have seen, by the all but constant appearance of nausea when the latter is inflamed. It is also demonstrated physiologically by the general existence of sickness during pregnancy; and experimentally, by the frequent manifestation of nausea on the uterine probe being passed into the healthy uterine cavity. Hence it is that uterine inflammation seldom exists for any length of time without the functions of digestion becoming impaired, and without the symptoms which characterize dyspepsia and imperfect assimilation and nutrition making their appearance. The mutual dependence of the uterus and stomach on the same system of nerves, the sympathetic, affords a ready explanation of this important fact. The same train of reasoning must lead us to the conclusion that chronic uterine disease reacts directly also on the functions of the liver and of all the chylipoietic and other organs, with which it is similarly connected. These sympathetic reactions will be carefully investigated when we are treating of inflammation of the neck of the uterus.

*Progress.*—Chronic inflammation of the uterus has a decided tendency to perpetuate indefinitely its existence, as is the case with inflammation in all tissues of rather a low vitality; such as the bones, for instance. This tendency, however, is greater in the uterus than in the osseous and other similar structures, owing to the periodical exacerbations to which the peculiar functions of the uterine system give rise. There is also a much greater reaction on the health and integrity of the entire economy, owing to the intimate connection existing between the uterus and the sympathetic nervous system which presides over the functions of organic life. The disease does not, however, present itself at first, or in all cases, with such severity. Both the local and general symptoms may be slight and obscure, especially during the interval of menstruation; but as time progresses, they generally become more and more decided, and the patient at last gradually sinks into the state which I have described.

*Termination.*—The periodical exacerbations that occur under the influence of the menstrual uterine congestion appear to prevent chronic metritis from terminating spontaneously by resolution. I can only recall to mind a few instances in which I have satisfactorily ascertained the disease to have thus terminated, during the persistence of menstruation. When menstruation finally ceases, spontaneous resolution, no doubt, not unfrequently takes place. Resolution, on the contrary, is one of the ordinary terminations of chronic metritis under the influence of appropriate treatment. Sometimes the enlargement of the uterine tissue gradually melts and disappears; in other instances the disease terminates by induration; the general enlargement of the



uterus, or its local hard tumefaction remaining in part, but all anomalous sensibility disappearing. This is, perhaps, a more common result of treatment than complete resolution. Under the influence of the menstrual exacerbation, or of other accidental causes, the chronic inflammation may become acute, and extend to the lateral ligaments, or even to the peritoneal membrane. This, however, is but seldom the case. Cancerous degenerescence is also one of the possible terminations of chronic inflammation of the uterine tissue; I believe, however, that it is very rarely observed. When it does occur, we must admit the previous existence of the cancerous diathesis; such a diathesis existing, the presence of chronic disease in the uterus would certainly be very likely to localize its action in that organ. In chronic metritis, intractable forms of congestion, occurring in connection with menstruation, may persist long after the removal of all actual inflammatory disease. This is more especially the case when the uterus remains permanently enlarged and indurated, as it occasionally does.

*Prognosis.*—From what precedes, it is evident that although our prognosis in a case of chronic metritis may be favorable as regards the life of the patient, which is scarcely ever directly endangered, yet it cannot be said to be favorable with reference to the probability of a speedy recovery. Chronic metritis may, also, as we have seen above, terminate unfavorably through the casual development of acute inflammation in the surrounding tissues, or through cancerous degenerescence. We ought always to be guarded, therefore, in giving an opinion as to the future. This is the more imperative, as a still more probable source of danger exists in the extreme sympathetic depression of all the powers of the economy. A female who has been suffering for years from chronic metritis is generally in so weak and enfeebled a condition, from disordered digestion and nutrition, and from the numerous other functional derangements which the disease occasions, that she has but little vital power to resist the attacks of intercurrent diseases, or to ward off the development of any cachexia to which she may be constitutionally disposed. Thus, we find such persons becoming consumptive, or succumbing under the influence of acute inflammatory affections, the action of which they would certainly have resisted had their constitution not been weakened by the existence of a chronic depressing disease.

We must not forget, also, that the mere fact of the uterine inflammation assuming the chronic form, is often the result of a low state of general organic vitality. The powers of the organization may be constitutionally below par, or they may have been depressed by previous disease, by grief and by sorrow, or by defective sanitary and hygienic conditions. Sometimes these constitutional defects and deficiencies are capable of remedy by the combination of general with local treatment; but sometimes they are irremediable. The human machine may be depressed, worn beyond the possibility of restoration, and, as a result, the local disease may resist every curative effort.

Notwithstanding all these drawbacks, however, we may, generally



speaking, take a favorable view of the case, provided the patient be willing and able to submit to a judicious, energetic, and sufficiently prolonged course of treatment; and provided the disease have not existed too long to be susceptible of eradication. Unfortunately this is not always the case. Social circumstances may render it impossible for the patient to obtain proper advice, or, even if obtained, to follow the rules laid down for her guidance. Even when the constitutional powers are not altogether below treatment, the disease may, in some exceptional cases, in the course of years of undisturbed possession, obtain so firm a hold on the economy as to resist every means employed to entirely eradicate it; at least during the existence of menstruation. I have met with instances of this kind, in which I have been able to limit and favorably modify the disease, but not entirely to eradicate it. Obstinate chronicity is, indeed, a characteristic of this malady. In most of the cases of chronic metritis which I meet with, the inflammatory action has existed for many years unrecognized and untreated when I discover its presence; thus the disease has become, as it were, an integral part of the economy of the patient. When this occurs with chronic inflammation in any of the tissues, it is always exceedingly difficult to subdue it radically.

*Diagnosis.*—Most of the patients affected with chronic metritis whom I see are considered to be merely suffering from uterine irritation, from displacement of the uterus, retroversion or retroflexion, or from functional dysmenorrhœa. A careful digital examination, however, at once reveals the true nature of the case. The general symptoms which I have enumerated are of themselves sufficient, especially when at all severe, to indicate the existence of chronic metritis. Should they not, however, carry conviction with them, their presence is at least sufficiently significant to render a further examination indispensable. Once digital investigation is resorted to, if the local symptoms of chronic metritis are borne in mind, it is by no means difficult to discover the real nature of the disease. The limited tenderness, increased by pressure, and generally situated in the posterior uterine wall, the local tumefaction and subsequent displacement of the uterus, are too characteristic not to be recognized.

There are, however, morbid non-inflammatory conditions of the uterus which may be mistaken for this form of inflammation. Thus I have not unfrequently found the uterus present, for some time after the complete cure of inflammatory disease, a peculiar state of exaggerated sensibility. The slightest touch occasions pain, sometimes in every region, and sometimes in a limited spot only; but the sensibility is not inflammatory, for if the contact is renewed, or the pressure is continued, pain is no longer experienced. Again, small fibrous tumors often form in the walls of the uterus, increasing their size and weight, and causing displacements; so that tumefaction and displacement alone cannot be considered symptoms of inflammation. Indeed, if the uterine enlargement is very great, it is most probably the result of a fibrous tumor, the existence of which, at the same time, does not

preclude inflammation of the uterine walls. I have repeatedly met with this complication of the two diseases. Lastly, an inflammatory tumor of the broad ligaments may be mistaken for chronic metritis, occupying the lateral region of the womb, more especially if the tumor is lying on the uterus, as is often the case. The symptoms that characterize the latter affection, which I shall hereafter describe, will enable us to establish the distinction when it really exists. In some cases, however, the two diseases are combined.

It is occasionally rather difficult to distinguish between cancer of the uterus and chronic metritis. If the circumscribed uterine tumefaction presents irregularities of surface, nodosities; if the pains are of a lancinating character; if the health has deeply suffered, and the patient is emaciated, sallow, and weak, it is next to impossible not to suspect the existence of cancer. Indeed, in such a case, it is only by observing the symptoms and progress of the disease that our fears on this score can be allayed. A careful analysis of the mode in which the two diseases manifest themselves in the uterus will, however, render a correct conclusion possible, even in a case of this description. Cancer, in the very great majority of instances, commences in the cervix, and thence extends to the body of the uterus. In both regions it is generally latent in its first stage; and when the attention of the medical practitioner is directed to the disease, and the state of the patient investigated, it is nearly always found very far advanced. Cancer of the uterus is soon followed by immovable adhesions between the uterus and the surrounding tissues. In chronic metritis there may be adhesions, but they are not of the perfectly immovable nature of those observed in the malignant affection. In cancer the nodosities and inequalities are sharp, knife-backed, irregular; in chronic metritis they are spherical, and regular in their form. Cancerous tissues are seldom very sensitive to the touch, whereas it is the reverse with the inflamed uterus. Cancer has a tendency to progress and to pass through its periods in the course of a limited space of time, say one, two, or three years. The symptoms indicating the existence of chronic metritis, on the contrary, may generally be traced back for several years, and when recognized the disease appears to remain stationary, if left to itself. The consideration of these differences will generally prevent cancer being mistaken for chronic metritis. If cancer of the uterus has become ulcerated, the distinction is still plainer.

*Pathological Anatomy.*—When the uterus of a person laboring under chronic metritis is examined after death, the inflamed region of the uterus is found enlarged, and more or less red and filled with blood. On weighing, it is also found heavier than in the healthy condition. If the chronic inflammation is terminating by induration, the texture of the diseased part is more than usually dense, and of a grayish or grayish-red hue.

It is very seldom that a practitioner has the opportunity of examining after death the uterus of a patient whom he has attended during

life for chronic metritis, inasmuch as the disease is not a fatal one. Persons thus affected not unfrequently die from some accidental inflammatory disease, which their weakened constitution cannot resist; but when this occurs the chronic ailment is usually lost sight of, and the attention is entirely fixed on the acute fatal affection. Thus, even when a post-mortem examination does take place, the lesions sought for by the medical attendant—often not the one who has treated the patient for the uterine malady—are generally those that have occasioned death, to the exclusion of all others.

If, however, those who have charge of the post-mortem examinations of hospitals and public institutions where females between the age of twenty and fifty are received and die, will only carefully examine the uteri of those who pass through their hands, they will frequently find, as I have found, the pathological evidence of the existence of chronic metritis during life. To find this evidence, however, the uterus must not be merely divided carelessly to see if it contains a fibrous tumor, as is usually the case, but be minutely investigated. It should first be examined *in situ*; its position and displacements noted. Then it should be separated, along with the ovaries and lateral ligaments, and the latter scrupulously examined previous to their removal. The uterus, divested of the annexed organs, should then be carefully weighed. When this is done, the observer will be surprised to find how often the uterus instead of weighing from one to one and a half or two ounces, weighs three, four, or six. He will also be surprised to find how generally, when this is the case, a further examination will reveal morbid uterine conditions, often the result of chronic inflammatory lesions. Although unrecognized during life, they have been, no doubt, not altogether unconnected with the death, through their indirect influence over health and vitality.

#### INTERNAL METRITIS.

*Seat.*—By internal metritis, or uterine catarrh, is meant inflammation of the mucous membrane lining the cavity of the uterus. The very existence of this mucous membrane was formerly called into question, but it is now universally admitted and described by anatomists, although its peculiar organization, as we have seen, renders its anatomical demonstration difficult.

Much stress has been laid of late years on uterine catarrh by continental writers, and it has been described by some, not only as a very common disease, but also as the cause of most of the inflammatory and ulcerative affections of the cervix met with in practice. In reality, however, such is not the case. Internal metritis is a *rare* form of uterine inflammation, and has only been considered common because it has been confounded with inflammation of the *cavity of the cervix*, a disease which, on the contrary, is very often met with.

The frequency of inflammation in the cavity of the cervix, and its general limitation to that cavity, are dependent, in a great measure,



on anatomical conditions, which we will briefly recall. The mucous membrane that lines the cavity of the cervix, as we have seen, differs greatly from that of the uterine cavity in its structural organization. It also contains a great number of mucous follicles, infinitely more than that of the uterine cavity; and mucous follicles throughout the economy are peculiarly liable to inflammatory action. Many of these follicles are concealed beneath the rugæ of the arbor vitæ, the mucous membrane accurately following the depressions and commissures of the latter. The cavity of the healthy cervix is distinctly separated from that of the body of the uterus by a constriction or natural sphincter, which marks the limit between the two mucous membranes. This sphincter, not described by anatomists, is, generally speaking, sufficiently powerful to offer a decided obstacle to the introduction of the uterine sound into the cavity of the uterus, in the healthy state. The existence of this constriction was first pointed out to me some years ago by Dr. Simpson, of Edinburgh, as an indication of a congenital or morbid contraction; but subsequent researches have led me to believe, as I have stated at page 26, that it exists in the healthy state, and that it is not *necessarily* morbid even when carried to such an extent as to render the introduction of the uterine sound impossible. The cavity of the cervix is often longer by half an inch, than that of the uterus itself. The uterine sound, when passed into the uterus, is concealed to the extent of two inches and a half; of which one inch and a quarter, or one inch and a half, occupies the cavity of the cervix. In the latter case one inch only is in the uterus. (See Fig. 3, No. 1, p. 26.)

The latest continental writers on uterine catarrh have fallen into the error of describing as uterine catarrh what in reality is merely inflammation of the cervical canal, as above limited. Whenever, on examining the cervix with the speculum, muco-pus is observed issuing from the os uteri, they conclude, without further examination, that it proceeds from the *cavity* of the uterus, and that the latter is the seat of inflammation. They do not reflect that the muco-pus *may* proceed, as it really does, in nineteen cases out of twenty, from the *cavity of the cervix*. The result of a careful scrutiny of all the cases of inflammation of the cervix uteri that I have seen for many years, with reference to this point, has shown me that in the immense majority the inflammation does not extend beyond the sphincter into the cavity of the uterus, but is limited to the mucous membrane and follicles which line the cervical cavity. I have been led to this conclusion by the observation of the following facts: Firstly. The dilatation which invariably *accompanies* inflammation of the cavity of the cervix does not, generally speaking, extend beyond the internal constricted point, or "os interum," the latter remaining contracted, so as not to allow the free admission of sound into the uterine cavity. Secondly. Therapeutical means carried so far only as the morbid dilatation exists, or to the os internum, effectually cure the inflammation, and put a stop to the discharge.



In some few cases, on the contrary, the os internum participates in the relaxation of the cervical cavity, so that the sound passes freely into the uterus, the two cavities communicating as in Fig. 3, No. 2, p. 26. When this is noticed, the cavity of the uterus may or may not be inflamed: if it is, the discharge from the os uteri is more abundant, and presents peculiar characters, the local and general symptoms are rather different, and, what is conclusive, therapeutical agents, carried into the cavity of the cervix alone may not be sufficient to effect a cure. These latter cases are really cases of internal metritis, or uterine catarrh. The former, by far the more numerous, I look upon as cases of inflammation of the mucous membrane and follicles of the cavity of the cervix only, or of cervical catarrh. This form of uterine inflammation will be specially studied in the section devoted to inflammation of the cervix.

*Causes.*—All the causes which give rise to acute or chronic metritis may also occasion internal metritis. It appears, however, to be generally met with in practice as the result of parturition or abortion, or of the chronic existence of inflammatory disease of the cervix and of its cavity. In the latter case, the inflammation gradually progresses along the cavity of the cervix until it reaches the os internum, and passes into the uterus. Indeed, considering the extreme frequency of inflammation of the entire cavity of the cervix, it is only surprising that the disease should so generally stop at the internal sphincter of that organ.

Among the causes most likely to give rise to internal metritis, a prominent position must be given to the inflammation that occurs after parturition and abortion. When inflammation of the uterus follows the expulsion of the ovum, the surface on which the placenta was implanted is peculiarly liable to be attacked, and the seeds of chronic inflammation of the uterine lining membrane may thus be sown. In some cases, acute vaginitis, and especially the blennorrhagic form of inflammation may become the cause of internal metritis, the inflammation gradually extending from the vagina to the cervix, to its cavity, and to that of the uterus. This, however, I believe to be much less frequently the case than has been asserted.

*Symptoms.*—Internal metritis being nearly always complicated by inflammation of the cervix, of its cavity, or of the substance of the womb, its symptoms are rather difficult to unravel; so difficult, indeed, that I do not believe the task has yet been accomplished satisfactorily by any writer. Internal metritis may be said to exist to a certainty, if the os internum of the cervix is so completely open as to allow the uterine sound to pass freely into the uterine cavity; if that cavity is increased in size, and more sensitive; and if, likewise, there is a more or less abundant *sero-sanguinolent* discharge, accompanied by dull, deep-seated pain in the region of the uterus itself—that is, behind and slightly above the pubis—and by a certain amount of general febrile reaction.

The sero-sanguinolent discharge is the most important of these

symptoms; indeed, it may be said to be, when present, as characteristic of internal metritis as the rust-colored expectoration is of pneumonia. The presence of blood in the secretion from the inflamed mucous surfaces is in both cases owing to the same cause—viz., the extreme tenuity of the ciliated epithelium. The blood-corpuscles exude in inflammation as in pneumonia or inflammation of the air-cells of the lungs, and blood is expelled mingled with the secretion of the inflamed surface. This sanguinolent discharge, however, is not always present when there is inflammation of the interior of the uterus. It is only when the inflammation is severe, or in its period of greatest intensity, that it is observed. At the onset, in the period of decrease, and sometimes throughout the entire duration of the disease, the secretion may be merely muciform or puriform. When congestion alone remains, it may consist only of transparent mucus. If this is the case, it becomes more difficult to distinguish internal metritis from inflammation of the cavity of the cervix, in which the same discharges are present; in both, they may be seen issuing in a thick stream from the os uteri, when the cervix is brought into view with the speculum. We can then only be guided by the amount of the discharge, by the morbid dilatation of the os internum, and by the other symptoms which I have enumerated.

In the healthy unimpregnated uterus, as I have stated, the cavity of the uterus is only an inch or an inch and a quarter in depth, and so small as merely to contain a few drops of fluid; consequently the uterine sound, once introduced, has but an exceedingly limited range of motion. In internal metritis the cavity of the uterus is dilated, increased in size, and the uterine sound moves with more freedom; the presence of the sound in the uterus, and its contact with the walls of its cavity, seem also to be attended with more pain than usual. This symptom, however, cannot be much depended upon, as the introduction of the sound generally occasions pain even in the healthy uterus; not unfrequently giving rise to nausea and faintness. Indeed, the cavity of the uterus appears to be naturally extremely sensitive, whereas that of the cervix is only slightly so in most females.

Internal metritis is nearly always accompanied by a dull, aching pain in the back or ovarian regions, similar to that experienced in inflammation of the cervix, and by deep-seated pain in the region of the uterus. The uterus is generally rather swollen, enlarged, and sensitive to the touch, the entire organ being in a congested, irritable state. Internal metritis is also often accompanied by a slight amount of febrile reaction, occurring at intervals, after exertion, instrumental interference, or at the monthly periods. The catamenia are often disordered, generally manifesting themselves more frequently and more abundantly, lasting longer, and being attended with more pain than usual. Sometimes the flow of blood is so great and so lengthened as to constitute flooding, and this is more especially observed, as might be anticipated, when the sero-sanguinolent discharge is present. With some patients, however, on the contrary, the menstrual secretion

appears to be diminished; but in either case it may be laid down as a rule, that the disease is aggravated by the appearance of menstruation. In addition to these symptoms, all the general sympathetic reactions which are observed in chronic metritis, and in chronic inflammation of the cervix, may be present. As internal metritis is generally complicated by these diseases, we may also have the peculiar symptoms which they present.

In some rare instances, inflammation of the lining membrane of the uterine cavity is followed by ulceration. When this is the case, the cavity of the uterus becomes considerably enlarged, and large quantities of pus, blood, and mucus collect within it, and are expelled through the os uteri. Dr. Hall Davis exhibited, a short time ago, to the Pathological Society, the uterus of a woman thus affected who died under his care; there were several large ulcerations on the internal surface of the organ. I have met with cases of a similar nature, but this termination of internal metritis is undoubtedly very rare. The mucous membrane of the uterus does not seem very liable to the ulcerative stage of inflammation.

From what precedes, it will be evident that although a careful digital examination, combined with the use of the uterine sound enables us to appreciate many of the symptoms of internal metritis, yet we can only obtain all the information we require to form a diagnosis, by a careful instrumental examination of the lower segment of the uterus. The cervix should be brought completely into view in a good light, so as to enable the medical attendant, not only to ascertain its precise condition, and that of the inferior and external portion of the cavity of the cervix, but likewise to appreciate the amount and precise nature of the discharge that issues from the os uteri.

*Progress, Termination, Prognosis.*—Internal metritis, when acute, and a mere complication of inflammation of the body of the uterus—as is often the case if the immediate result of parturition or abortion—not unfrequently terminates by resolution. Sometimes, even in these cases, it passes into the chronic form. Apart from the puerperal condition, it is generally observed in the chronic stage. Once it has become chronic, it may perpetuate its existence indefinitely, if unmodified by treatment. Like all other uterine inflammations, it is often kept alive, even in the best constitutions, by the periodical exacerbations occasioned by the monthly menses. Indeed, owing in a great measure to this cause, it is seldom that we see internal metritis, once it has attained the chronic stage, spontaneously terminating by resolution, at least during the persistence of the menses. When the latter have definitively ceased, this form of uterine inflammation, like those which we have studied, or shall study, may gradually yield, and eventually disappear under the mere influence of the modified functional and structural vitality of the uterine organs. Confirmed internal metritis may exercise a sufficiently severe sympathetic influence over the constitution to thoroughly debilitate the patient, and to occasion death indirectly, by exposing her, thus



weakened and reduced, to the development of accidental affections. The latter terminate fatally through want of organic power. The general cachectic state, the inability to shake off the uterine disease, may also be the result of those general constitutional conditions which more or less control the progress and results of all local diseases. These conditions, hereditary, social, or organic, the experienced practitioner will take into careful consideration.

*Pathological Anatomy.*—I have often seen the uterine mucous membrane presenting the anatomical evidences of inflammation in patients who have died of puerperal inflammation at various periods after their confinement. The internal surface of the uterus is then found red, swollen, congested, and covered with a thin coat of muco-pus. But I have only seen a few cases in which the uterus presented evidence of internal metritis in the non-puerperal state; or in which there has been ulceration of the internal mucous membrane. In the case of Dr. Hall Davis, the mucous membrane presented several large inflammatory ulcerations, situated on the internal surface of the uterine walls, and quite distinct from the cavity of the cervix, which appeared free from inflammation. There was, however, considerable disease of the uterus present, besides the inflammation of its cavity. The organ was much enlarged, its walls thickened, and its cavity greatly dilated. In another case in which death occurred after repeated hemorrhages, extending over several years, the mucous membrane lining the cervix and part of the cervical canal was ulcerated, and the ulceration extended in patches into the uterine cavity, which was considerably enlarged. In the non-puerperal cases unattended with ulceration, I have found the uterine mucous membrane congested, thickened, and covered with muco-pus, with aggrandizement of the uterine cavity.

*Diagnosis.*—The elements of a correct diagnosis of this disease are to be found in the account which I have given of its symptoms. Internal metritis presents so many points of contact with inflammation of the cervix or of the body of the uterus, that the diagnosis can only be satisfactorily established by a rigorous analysis of the symptoms of all these diseases; with which, moreover, it is generally complicated. I may, however, remind the reader, that internal metritis is generally confounded with acute or chronic metritis, but more especially with inflammation of the lining membrane of the *cavity of the cervix*. In acute metritis, there is much more febrile reaction, greater local pain, and more sensibility of the uterus. In chronic metritis, there is marked general or *partial* sensibility of the uterus, accompanied by local changes in its volume. In inflammation confined to the cavity of the cervix, muco-pus oozes out of the os uteri, and the cavity of the cervix is dilated, but the os internum generally remains closed. Moreover, although the mucoso-puriform secretion may be streaked with blood, it is not *mingled* with it, as in the acute stage of internal metritis. There is not that sero-sanguinolent, sanious discharge which



characterizes this latter disease; nor the, often severe, reactional symptoms to which it appears to give rise.

As I have already stated, it is to inflammation of the cavity of the cervix that we must refer nearly all that has been written of late years by continental writers respecting internal metritis. They are evidently quite ignorant of the normal existence of the internal sphincter on which I have found it necessary to lay such stress, and do not appear to have any clear view on the comparative length of the two cavities of the cervix and of the body of the uterus. Consequently, they have concluded that the injections they used therapeutically penetrated into the interior of the uterus, and cured the internal uterine inflammation which they supposed to exist; whereas, in reality, the disease must have been nearly always confined to the cavity of the cervix, and the remedies used cannot have penetrated beyond the os internum, that is, beyond the sphincter, which separates the two cavities.

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## CHAPTER V.

### INFLAMMATION OF THE NECK OF THE UTERUS.

#### INFLAMMATION, ULCERATION, AND HYPERTROPHY OF THE CERVIX UTERI CONSIDERED GENERALLY.

IN order to appreciate the morbid changes, the result of inflammation, which take place in the cervix uteri, it is indispensable that we should bear in mind the anatomical facts which I have described in Chapter II. The presence of cellular tissue in the cervix, its greater vascularity as compared with the uterus, and the highly developed state of the mucous membrane lining its cavity, studded as it is with numerous mucous follicles, are, in a pathological point of view, the most important anatomical peculiarities which it presents.

The size and length of the cervix uteri vary considerably in different females—a fact which must necessarily be taken into consideration if we wish to appreciate the existence or non-existence of hypertrophy, or of morbidly increased volume, of the organ. Indeed, these physiological variations are so great, that were we to allow ourselves to be guided by size alone, as appreciated by the touch or the speculum, we should, undoubtedly, be often misled, and induced to suppose that disease existed when it did not. In reality, there is no precise rule as to size. The cervix may be voluminous, and yet perfectly healthy; and when this is the case, there is entire freedom from uneasy sensations. The apparent length of the cervix is also very variable, the difference being evidently occasioned principally by the implantation of the vagina at different heights on the cervix. From this cause, in

some females, the cervix is merely a few lines in length congenitally, whereas in others it is an inch, or more. Congenital elongation of the cervix uteri may, indeed, be carried to such an extent as to constitute a deformity which, as stated at pages 24 and 25, leads to disease.

Attempts have been made to ascertain, by measurement, the normal size of the cervix in the healthy state. I do not, however, attach much importance to the results thus obtained. Whatever its size, shape, or direction, the uterine neck may be considered healthy if it is free from inflammation or induration, if the os is normal, and if the cervical cavity is in a normal state.

In the healthy condition, the cervix uteri is perfectly soft and smooth. On being pressed by the finger, no hardness or resistance, indicating condensation of tissue, is felt. There is, at the same time, a certain amount of elasticity about it, the varying degree of which indicates the presence or absence of local congestion of the uterine system. In this, the healthy state, the surface of the neck of the uterus is generally unctuous to the touch; the layer of mucus by which it is then covered accounting for this very characteristic sensation. There is also complete absence of pain on pressure. In examining the cervix by the touch, it is advisable to appreciate carefully the state of the entrance to its cavity, as slight local induration existing on or within the margin of the lips, or its open condition, might otherwise escape notice. The pulp of the finger should be pressed successively on each part of the upper cervical region, above, below, and on each side; which may be easily accomplished. Not only does this mode of examination contribute to render our sensations of density and smoothness more perfect, but it also enables us to judge of the size and freedom from adhesions of the body of the uterus itself. In the unimpregnated state, and when not morbidly enlarged, the body of the uterus, as we have seen, moves readily when pressure is made on the neck; pressure thus applied acts as on one extremity of a lever—raising the other in the opposite direction. If these facts respecting the healthy uterine neck are borne in mind, the detection of disease becomes comparatively easy; at least in the generality of cases.

*Seat.*—Inflammation of the cervix uteri may commence in the mucous membrane covering the cervix or lining its cavity, or in the mucous follicles which that membrane presents, or in the substance of the organ. In the latter case the disease is generally connected with general metritis. Inflammation of the mucous membrane is not unfrequently limited to one of these regions, that is, either to the interior or to the exterior of the cervix; but it is seldom confined to one anatomical element. Generally speaking, both the mucous follicles and the vascular mucous network are simultaneously the seat of inflammation.

*Nature.*—Inflammation in the neck of the uterus, as in the body, is modified by the constitutional state of the patient. Thus its progress, and the intensity and character of the symptoms which it occasions, may be more or less modified by the existence of any constitutional

diathesis, scrofulous, gouty, rheumatic, or herpetic, or by any cachectic condition of the economy. The changes, however, which these conditions may impress on inflammation developed in the uterus and its annexed organs, are similar to those which would be produced in any other organ, and do not deserve special notice. They belong to general pathology, and must be studied in connection with the laws which general pathology teaches us to recognize and to apply to disease, whatever the tissue or the organ it may occupy.

*Causes.*—The causes which give rise to inflammation of the cervix may be divided into predisposing and efficient. The predisposing causes are anatomical, physiological, and emotional. The anatomical predisposing causes of inflammation have already been fully elucidated. The *physiological* predisposing causes are numerous, and vary according to the epoch of the uterine life.

Previous to menstruation, the uterus is dormant—in abeyance, as it were. Its vitality is low, and it appears to be very little exposed to inflammatory action. Menstruation having once commenced, a very different state obtains. The uterine system, as we have seen, becomes more vitalized, and remains in a state of physiological congestion during a variable period of each lunar month. Although in other parts of the economy long-continued congestion is the most powerful predisposing cause of inflammation, we can scarcely look upon the molimen hemorrhagicum that precedes, accompanies, and follows the menstrual secretion as predisposing to inflammation of the cervix uteri so long as it remains strictly within physiological limits; it is then merely an element of a natural function. Unfortunately, however, the congestion of menstruation is far from invariably remaining within these boundaries. In some females, as I have elsewhere stated, it appears to be always morbidly great. In this case there is pain experienced throughout life, during the catamenia, or for the first day or two of their presence; and that in the absence of any local inflammatory disease, or of any physical imperfection in the uterine passages. In all, the menstrual secretion is liable to be prevented, diminished, increased, or suddenly arrested by a host of mental, social, or pathological causes; and whenever this is the case, the natural uterine congestion may become morbid, and thus give rise to inflammation. This accounts for virgins being not unfrequently attacked with inflammation and ulceration of the neck of the uterus (a fact which I have fully substantiated); as also for their being liable to other inflammatory affections of the uterus which we have already studied.

In the married state, the cervix uteri is necessarily exposed to another fruitful cause of inflammation, even when conception does not take place. The physiological congestion and excitement which accompany intercourse may, if too frequently renewed, give rise to inflammation; and the same result may be occasioned directly by physical contusion of the organ itself. In some females the uterine system appears to be so extremely sensitive that inflammation immediately follows intercourse, even when the bounds of discretion have



not been overstepped. Owing to the operation of these latter causes, many young females are attacked with inflammation and ulceration of the cervix within a few days or weeks of marriage; and when such is the case, they mostly remain sterile. If they do conceive, successive abortions or miscarriages generally take place; and this will frequently explain the repeated abortions which sometimes occur during the first years of married life, and prove so embarrassing to the practical accoucheur.

When conception has taken place, other causes of inflammation come into action. A new life dawns on the uterus and its appendages. Instead of remaining in a quiescent condition, merely disturbed at periodical intervals by the menstrual congestion, the uterus assumes a high degree of vitality, becomes the seat of a most active nutrition, and rapidly increases in size. The hard fibro-muscular tissue of which it is formed undergoes, apparently, a complete transformation, and assumes the decided characteristics of muscular structure; the arteries and veins, previously so small as to be demonstrated with difficulty, are developed to an enormous extent; and the entire organ becomes one of the most, instead of one of the least, vascular in the human economy. The cervix uteri participates in the change; it becomes turgid, swells, softens, and its entire structure is modified by the exaggerated organic activity which pervades the uterine system. Pregnancy may thus itself be considered a predisposing cause of inflammation of the cervix. The uterine system, however, appears to be peculiarly shielded from inflammatory action during pregnancy. Were not this the case, considering the high degree of vitality which it then presents, inflammation would necessarily be much more frequent than it actually is. A careful investigation of the morbid conditions of pregnancy has, indeed, proved to me that inflammation and ulceration of the cervix frequently exist during that state; but I believe that in these cases the inflammatory disease generally originates antecedently to conception taking place, and is merely increased and magnified by the changes which occur in the vitality of the uterus.

Parturition is a very frequent cause of inflammation and ulceration of the cervix, as might be presumed *à priori*. Not only is parturition frequently followed by inflammation of the uterus involving the cervix, which may perpetuate itself in the latter region even when it has been subdued in the body of the organ, but it often occasions inflammation of the cervix alone; other parts of the uterine system not being simultaneously affected. This is owing to the cervix being the region of the uterus the most exposed to laceration and contusion during parturition.—The cervix may be lacerated more or less extensively during the most natural labor. In a rapid confinement, a strong contraction, or a succession of strong contractions propelling the child with great force against the imperfectly dilated os, will, as I have very often witnessed, thus lacerate the cervix, under circumstances otherwise the most favorable.

The mucous membrane lining the cavity of the cervix is even more

exposed to laceration and contusion than the deeper-seated structure of the organ. This mucous membrane becomes more vascular and more perfect as pregnancy advances, and as the general organic vitality of the uterus increases; its integrity being in nowise interfered with by the changes that are taking place in the uterine system.

That such is really the case is evident, dilatation of the os uteri only commencing in primiparous women towards the end of the sixth month, and in those who have borne children not until the end of the fifth. Moreover, this dilatation of the os uteri is very slight until parturition actually commences, and is not consequently calculated to interfere with the integrity of the mucous membrane with which the cervical canal is lined. As soon, however, as the pains which precede and accompany the expulsion of the foetus commence, the dilatation of the os uteri progresses rapidly, and in the course of a few hours is carried to such an extent as to admit of the passage of the foetus. A necessary consequence of this rapid dilatation of a canal lined by a mucous membrane in an entire state is that in many cases, notwithstanding the existence of folds which provide for its ampliation, it must be accompanied by contusion, erosion, and laceration of the membrane. In the majority of women, no doubt, these lesions disappear promptly, cicatrization taking place with rapidity, under the influence of the retraction of the tissues of the neck, and of the reparative action which sets up, after delivery, in the cervix, as well as in the body of the uterus. But if the reparative inflammation should prolong its duration and assume a pathological character; if remnants of the placenta or of the membranes left in the uterine cavity give rise, by their decomposition, to an irritating fetid discharge; it is easy to understand that the lesions of the mucous membrane, instead of healing, will almost inevitably become the seat of destructive inflammation and of subsequent ulceration.

When inflammation and ulceration of the cervix uteri recognize this origin, it will often, but not always, be found, on inquiry, that the last abortion or labor was followed by morbid symptoms of more or less intensity—varying from severe metritis to mere uterine pains—or by a fetid and unpleasant lochial discharge. In such cases, the inflammation and ulceration generally first exist between the lips of the os uteri or in its cavity, and if the patient is examined soon enough, the course of the ulceration may be followed as it escapes from the os, and spreads itself on the cervix. I have often met with cases of this description. In the first instance in which, a few weeks after labor, I saw a small ulceration issuing from the lips of the os uteri, I was struck with the fact, but did not attempt to explain it. The comparison which I afterwards made between cases of this description, and others examined at a later period, in which the inflammatory disease could only be traced to a natural labor, led me to perceive the clue which exists between the cause and its effect. It is, indeed, evident to me, that a considerable proportion of the cases of inflammation

and ulceration of the cervix met with in practice originate in this manner.

Married women who have had children, and who have escaped the dangers of childbirth, are not only exposed subsequently to all the various causes of inflammation which have been already enumerated, but are more liable to their operation than virgins, or than women who have never conceived. The uterus of a woman who has borne children, as long as menstruation lasts, never returns entirely to the size which it presented previous to conception. It is rather larger, rather more vascular, and endowed with greater vitality; consequently, it is more liable to inflammatory disease. Thence it is, also, that in metritis, unconnected with pregnancy, the body of the uterus enlarges more in women who have borne children than in those who have not.

This remark applies even more to the cervix uteri than to the body of the organ. The more vitalized state of the cervix in women who have conceived, accounts also for induration and hypertrophy being much more frequently a concomitant and a result of inflammation and ulceration in them, than in women who have never been pregnant. This is a highly interesting fact, as the changes in the intimate structure of the cervix which constitute hypertrophy form a most important feature in the history of the disease whenever they are present.

In more advanced life, when menstruation is ceasing, the extreme and lengthened uterine congestion which often accompanies the irregularities that occur in the menstrual secretion may be considered as predisposing to inflammation of the cervix. This congested condition of the uterus will sometimes perpetuate itself for years after menstruation has finally ceased; more especially if the cervix is the seat of inflammatory disease. Generally speaking, however, it gradually gives way, and the uterus falling into a state of atrophy, any inflammatory affection of the cervix that may exist spontaneously disappears.

The various predisposing causes of inflammation which have been enumerated, are all connected with functional and physiological states of the uterine system. Their exaggeration or morbid modification leads to the development of inflammation under the influence of all the ordinary *efficient* causes of inflammatory disease, and more especially of those which act on the uterus. Inflammation of the cervix may also be the result of the extension of vaginitis, blennorrhagic or non-blennorrhagic, or it may occur spontaneously, like all other phlegmasiæ, without being traceable to any particular cause. It may occur from the direct exposure of the cervix to the air, to friction, and to external violence, as in complete procidentia of the uterus. It is not unfrequently met with when fibrous tumors are developed in the walls of the uterus, and is very often the concomitant both of large polypi originating in the uterine cavity and passing through the cervix by means of a pedicle, and of the small vascular polypi that grow from the contour of the os, or from the parietes of the cavity of the cervix. The frequent existence of inflammation and ulceration of the



cervix and its cavity under the latter circumstances may be easily accounted for. When a fibrous tumor has formed in the uterus, the latter, along with its cervix, becomes developed and vitalized, as in pregnancy, and consequently predisposed to take on inflammatory action; and polypi, whether fibrous or vascular, irritating the tissues with which they come in contact as they escape from the os uteri, cause the mucous membrane to inflame and to ulcerate.

Under the head of *emotional* causes may be classed disappointed affections, grief, and mental depression generally. Women are "women" through the uterine organs, which stamp their impression on the entire organization, and especially on the nervous system. Thence the double reaction which exists from the mind on the uterine system, and also from the latter on the former. We need not, therefore, feel surprise when we see disturbed menstruation, local congestion, and actual inflammatory disease follow in the train of sorrow, or the trials and disappointments which so frequently attend on the affections. I have seen many distressing instances in which disappointed attachments, more especially, have evidently been the original cause of inflammatory disease of the cervix, and of the uterine organs generally. These conditions of the mind exercise also an unfavorable influence on the progress and treatment of uterine inflammation. The gloom, the despondency, the *tædium vitæ*, which characterize such cases, are most unfavorable conditions. There is also, occasionally, a direct physiological reaction in the uterine organs in very sensitive and impressionable organizations.

*Symptoms.*—The symptoms of inflammation of the neck of the uterus may be divided into anatomical, local, functional, and sympathetic or constitutional.

#### ANATOMICAL SYMPTOMS.

The anatomical symptoms consist in those changes which take place in the appearance, form, and structure of the cervix uteri, as appreciated by the touch and by instrumental examination.

*Congestion and Simple Inflammation.*—When the mucous membrane which covers the cervix is inflamed, it ceases to present to the touch the unctuous surface which characterizes it in health; at the same time the entire cervix becomes tumefied and enlarged, but remains soft, the swelling being merely that of congestion. If the inflammation extends to the deep-seated structures, or if it commences there, the cervix is more or less indurated as well as enlarged, from the interstitial effusion that takes place. When the uterine neck is thus increased in weight, it nearly always falls more or less—that is, prolapses—in the vaginal cavity so as to approximate the vulva. In married females, it is also generally *retroverted*, owing to physical pressure in congress.

When the inflamed cervix is brought into view by the speculum, its surface is found to offer a vivid red tinge instead of the pale rosy

color of health. In persons with a very fair skin the mucous membrane, vulvar, vaginal, and cervical, is apparently more vascular, and of a much more brilliant rosy hue than in females of a darker complexion. In appreciating the change produced by inflammation this physiological fact must be taken into consideration. The inflamed cervix may present a uniform red hue, and be dotted with florid papulæ, or with white pustulæ, consisting of mucous glands hypertrophied or distended with muco-pus; or it may offer any of the shades between the bright red of arterial blood and the livid tinge of venous blood, according to the state of the circulation. On the inflamed surface we find a certain amount of muco-pus, which generally requires to be wiped off before the state of the mucous membrane can be clearly ascertained. The presence of this muco-pus is very important in a semeiological point of view, as both redness and tumefaction of the cervix may be produced by mere congestion, especially if it is carried to a morbid extent. Thus, if the healthy cervix is examined instrumentally during menstruation, or for a day or two before or after, it will generally be found to present these characters. Under such circumstances, however, there is the absence of the product of inflammation, muco-pus, to guide us. Muco-pus, the product of inflammation, must not be confounded with the white creamy secretion which is frequently found in this region, and which is, when not very abundant, generally the result of congestion and not of inflammation.

In the first stage of inflammation, before any morbid secretion has set in, it may be difficult to distinguish between congestion and inflammation. The difficulty, however, seldom presents itself in practice, as patients are scarcely ever seen, or at least examined, in the incipient period of the disease.

Sometimes the inflamed cervix presents pseudo-membranous patches similar to those which are observed in pseudo-membranous angina, and in croup. These patches are principally observed round the os, but may occur upon any part of the cervix; they indicate a very intractable form of inflammation, which it is very difficult to subdue. They often keep re-forming for months, however energetic the means used to cure the inflammation to which they owe their origin. They have been recently considered by some French pathologists to be syphilitical; but I do not think their syphilitical origin at all proved.

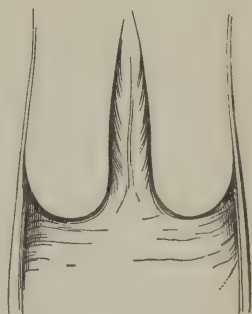
*Changes produced by Inflammation in the Cavity of the Cervix.*—When inflammation attacks the cavity of the cervix, important modifications take place both in the os uteri and in the cervical canal—modifications which have not hitherto been described, even by continental writers. In the healthy condition, the os uteri is closed to such an extent as to be but just perceptible to the finger passing over it, and as to only admit a moderate-sized sound or bougie, which opens it in passing, as it would the urethra. The entire cervical passage, as far as the os internum, is similarly, but not uniformly contracted. When the cavity of the cervix is inflamed, it expands, on the contrary, becoming more or less open; as does also its external orifice,

the os uteri, the lips of which are everted. It is difficult to account satisfactorily for the change which inflammation thus produces in the cervical cavity of the uterus. It may be owing to paralysis of the submucous muscular fibres which encircle it, induced by the inflammation of the adjacent mucous membrane; or it may be the result of inflammatory distension of the submucous cellular tissue. Whatever the explanation we adopt, the fact is certain; a more or less patent state of the os and cavity of the cervix uteri is the invariable concomitant of inflammation. This anatomical change in the state of the orifice of the uterus is invaluable in a semeiological point of view, as it can easily be recognized by the touch. Whenever the finger, instead of passing over a scarcely perceptible orifice, meets with a well-marked depression, into which its extremity may be inserted to a greater or less extent, we may all but conclude that inflammation, with or without ulceration, is present, and it becomes advisable to pursue the investigation farther, so as to ascertain, by ocular inspection, in a satisfactory manner, the real state of the parts. This open condition of the os uteri is so easily recognizable, that it is impossible to pass the finger carefully over the os without perceiving its existence. It has been described as merely indicating relaxation, or want of tone of the os uteri—an opinion which is generally adopted in practice; but this view is a great mistake, inasmuch as this state of the os uteri all but invariably means disease.

Generally speaking, the morbid dilatation of the cervical cavity ceases before we reach the os internum, which, as I have elsewhere stated, appears in most instances to oppose a kind of barrier to the extension of inflammatory action to the uterine cavity. (See Fig. 3, No. 1, pp. 26 and 63.) Should the inflammation, however, extend to the cavity of the uterus, the dilatation becomes complete throughout. It is because the distinction between the two cavities of the uterus, that of the neck and that of the body of that organ, has not been made, as I stated when treating of internal metritis (p. 63), that the symptoms of disease in these two regions have been completely confounded, and that many French pathologists consider internal metritis a very common form of uterine inflammation, complicating, if not originating, most cases of inflammation and ulceration of the cervix; than which nothing can be more untrue. Inflammation of the *cervical* cavity is, in reality, the common affection; whereas inflammation of the *uterine* cavity is fortunately rare.

Although, as a general rule, the os externum be thus open when the cavity of the cervix is inflamed and ulcerated, the rule is not without exception. I have, in some few instances, met with a closed

Fig. 5.



Os Uteri and Cervical Cavity open from Inflammation.



os externum, although the cavity of the cervix was inflamed, ulcerated, and dilated behind it. This became evident on slightly dividing the os externum, when the case became perfectly similar to the figure in the woodcut. The fact shows that the touch cannot be entirely depended upon in these cases.

Although the finger recognizes with ease the open state of the orifice of the cervical canal when it is inflamed, the eye may not detect it, unless a bivalve speculum be used, or at least a sufficiently large conical or cylindrical one to expand the lips of the os uteri. The morbid expansion of the os uteri and cervical canal is scarcely ever, in the absence of ulceration, carried to such an extent as to leave the os absolutely patent, like a bronchial tube in a hepatized lung; the parietes of the cervical canal being still more or less in contact, although dilated and separable. Hence the great advantage of the bivalve speculum in these cases: the expanding power exercised by its valves on the vagina enables the practitioner to open the lips of the os uteri to their full extent, and thus to ascertain by ocular inspection the state of a portion at least of the cervical canal.

The mucous membrane that lines the cavity of the cervix, when inflamed, presents a dark livid-red hue, which may be traced with the eye to a considerable depth, by depressing with the sound the lower lip of the os. This surface bleeds easily on being touched with the probe, especially if excoriated or ulcerated, which is not the case in the healthy condition. In the healthy state, the probe may generally be passed gently along the cervical canal, as far as the os internum, without the slightest oozing of blood. This is an important fact, as the escape of a few drops of blood from the os often follows, on the contrary, the entrance of the sound into the uterine cavity, even in the healthy condition.

The inflamed mucous membrane of the cervical canal secretes the transparent glutinous mucus, and, later, thick yellow muco-pus in more or less abundance. This secretion, filling up the cavity, can often with difficulty be wiped away. I generally use for that purpose a small piece of cotton, inserted into the cleft of the fluid caustic-holder, which may be passed into the cavity of the cervix, owing to its dilated state, and with which the mucus may be removed. Even when there is no pus present, the cavity of the cervix is often completely filled with the glairy transparent mucus, evidently secreted by the mucous follicles of the inflamed lining membrane. This glairy mucus, which may be compared to the uncooked white of an egg, has much attracted the attention of writers on female discharges, and is considered to be secreted by the uterine organs generally, as the result of debility, whereas, in reality, it is secreted by the cavity of the cervix, and is nearly always, when abundant, the concomitant of inflammation. It is sometimes produced in very great abundance, and constitutes one of the principal forms of the vaginal discharge commonly called "whites." The presence of great quantities of this glairy mucus,

along with an open state of the os uteri, may be considered as pathognomonic of inflammation of the cavity of the cervix.

*Inflammatory Ulceration.*—Inflammation may exist for years in the cervix and its cavity, without giving rise to any other anatomical changes than those which have been enumerated. This, however, is not generally the case. The mucous membrane lining these regions, and more especially that portion of it which is near the os, appears to be peculiarly liable to take on ulcerative action. Consequently, the existence of inflammation, in the majority of instances, is soon followed by the manifestation of the ulcerative process. Ulceration generally appears first round the os, and just within the cavity of the cervix. From thence it extends, more or less, especially outwards, over the cervix. Many different forms or species of ulceration are described by continental writers, but, in my opinion, without necessity or advantage. An ulceration occupying the cervix uteri may present all the various modifications which suppurating surfaces offer in any other part of the body, from the minute granulations of a slight abrasion to the livid vegetations of an unhealthy sore. These modifications of the ulceration require no division or classification, because they are merely the result of general pathological conditions, which, as I have already stated, the laws of general pathology specify and describe. Thus it is that it becomes superfluous and unnecessary to describe specially a scrofulous, an herpetic, a cachectic ulceration, as some continental writers have done.

When an abrasion or excoriation only is present, the cervix is generally of a vivid red, and the granulations are often so minute that it is at first difficult to ascertain whether the mucous membrane is abraded or merely congested; or to perceive the limit of the excoriation once it has been ascertained to exist. The doubt, however, may be solved by lightly touching the suspected surface with the nitrate of silver. The abrasion immediately assumes a much whiter hue than the region which is merely congested, owing to the destruction and absence of the epithelium, and its margin becomes well defined and evident. An abraded or excoriated condition of the mucous surface is generally the form under which ulceration presents itself in the cervical cavity; granulations of any size being seldom met with in this region. In virgins, ulceration often presents this character, especially when limited to the contour and cavity of the os.

Some years ago several writers denied the propriety of applying the term ulceration to the abrasions and excoriations which I am describing, and insisted that this morbid state ought to be termed granular inflammation. They have been obliged however, to recognise their error. In one instance, a writer who all but denied the existence of ulceration of the cervix, has actually published microscopical drawings of cervical ulceration in all its stages, and that without the slightest attempt at recantation or explanation; thus showing a singular want of scientific candor. That I am warranted in using the term ulceration when the lesion is the result of inflam-

mation and of morbid vital action, and not of physical violence, must be evident to all who are acquainted with the classical literature of the profession. Ulceration, says Samuel Cooper, "is the process by which *sores* or ulcers are produced in animal bodies." J. L. Petit defines an ulceration or ulcer as "a solution of continuity, from which is secreted pus, or a puriform, sanious, or other matter." Boyer states, that "an ulceration is a solution of continuity of the soft parts, more or less ancient, accompanied by a purulent secretion, and kept up by some local or internal cause." Any of these definitions apply quite as truly to a mere abrasion or excoriation, the result of diseased action, secreting pus or sanies, as to the chronic, excavated, cutaneous ulcers, which the writers in question most unaccountably expect to find in the cervix uteri. Owing to the peculiar structure of the mucous membrane lining the cervix and its cavity, the margin of an inflammatory ulceration in this region is scarcely ever elevated and inverted, unless it be chancreous or cancerous, or unless the mucous membrane have been modified structurally by long exposure to the air, as in complete procidentia uteri. Inflammation of a merely granular character of the cervix uteri is, however, sometimes observed, and real ulcerations, after being treated for some time may heal over superficially, and assume a granular appearance.

In its more decided form, ulceration of the cervix uteri is susceptible of presenting every possible variety. The granulations may be firm, of a vivid hue, scarcely bleeding on pressure; or they may be large, fungous, livid, and bleeding profusely at the slightest touch. These fungous ulcerations are generally connected with torpor of the local circulation. When they are present, the congestion of the vagina and cervix is often very great, of a livid venous character, and the non-ulcerated surface of the cervix may present dilated varicose veins. It is the presence of these varicose veins that has led French writers to give to ulcerations in which they occur the name of varicose ulcerations. In pregnant women, after the first few months, ulceration of the cervix generally assumes this fungous or varicose form. Sometimes the granulations from a purely inflammatory but luxuriant sore will rise above the level of the surrounding parts, and even form small fleshy masses, which may be partly brought away by the finger, or which separates spontaneously. Ulcerations of this description bleed profusely whenever they are interfered with; sometimes to such an extent, that on bringing them into view with the speculum, the blood partly fills the instrument as often as it is wiped away. Whatever the character of an inflammatory non-syphilitic ulceration of the cervix, the ulcerated surface is never excavated; it is always on a level with or above the non-ulcerated tissues that limit it; and its margin never presents any abrupt induration. Owing to this circumstance, it is always impossible to determine by the touch the precise point at which the ulceration terminates.

The cervix seldom presents more than one ulceration, situated around the os, dipping into its cavity, and extending more or less



externally on the outer surface. Sometimes, however, we find, in the vicinity of the os uteri, several small ulcerated patches, isolated one from the other, but near to it. These multiple ulcerations, which are rare, are evidently formed, in the first instance, by aphthæ or ulcerated mucous follicles.

Owing to the all but invariable existence of the ulceration around and inside the os uteri, the form of the latter is always considerably modified. The lips of the os swelling, enlarging, and expanding, the orifice of the cervical cavity opens. This opening of the os uteri is much more considerable when ulceration is present than when inflammation alone exists. Its extent depends principally on the size which the enlarged cervix reaches, on the degree and nature of the ulceration, and on the physiological condition of the patient. It is always much greater in a woman who has had children than in one who has not. In slight cases, the end of the finger only passes between the patulous lips of the os uteri. In more decided and more chronic disease, half or more of the first phalange of one, two, or three fingers, will enter its cavity. This is more especially the case when the lips of the os uteri are very much hypertrophied and indurated. They then often present the form of two rounded segments of a sphere, separated by a deep fissure; and the ulcerated surface, which is situated deeply between them, can only be discovered with the eye on their being separated with a bivalve speculum.

The presence of ulceration, generally speaking, gives to the surface on which it exists a soft, velvety, mossy character, which the finger, with a little practice, readily recognizes. This soft, velvety sensation, and the open state of the os uteri, are the most important evidences of the existence of ulceration that the touch can furnish. They do not, however, conclusively prove the existence of ulceration, inasmuch as inflammation of the cavity of the cervix alone will open the os, as we have seen, more or less; and the velvety sensation cannot be depended upon, owing to the very variable nature and seat of ulceration. If it is situated deeply between two rounded lips, or inside the os, the finger does not reach it. The difficulty of distinguishing by the touch between mere inflammation and ulceration is, however, of the less consequence, as the open state of the os, which exists in both, is a morbid condition of sufficient importance to render an instrumental examination absolutely indispensable.

In nearly all cases in which inflammation and ulceration occupy the exterior of the cervix, they will be found on examination to penetrate, one or both, more or less deeply into its cavity. The entire cavity of the cervix, as far as the os internum, may be ulcerated. Even when the cervical canal is free from ulceration, as is often the case, it is generally inflamed to a greater or less depth if ulceration exists externally. Owing to the cavity of the cervix expanding when thus affected, if its lips are well separated by the pressure of the bivalve speculum on the upper region of the vagina, and the patient is placed in a good light, the eye will often follow the disease to a considerable

depth; especially if one of the lips of the os uteri is at the same time depressed or elevated with the uterine sound. We must judge as to the presence of ulceration beyond the point which the eye can reach, by the nature of the secretions, and by the expansion of the cervical canal. In the cavity of the cervix it is often difficult to distinguish between inflammation and ulceration, owing to the minuteness of the granulations of the ulcerated surface.

The natural coarctation of the os internum appears all but invariably to constitute a barrier to the extension of ulceration into the cavity of the uterus. In the case of ulceration of the cavity of the uterus, to which I have elsewhere alluded (p. 66), the cervix and its cavity were perfectly free from disease.

*Discharges.*—The secretion from the ulcerated surface, wherever its seat, is necessarily purulent. The pus may be thick, and of a yellow healthy color, or it may be thin and sanious, according to the state of the ulceration. It may be secreted scantily, or in abundance. It may be mixed with a good deal of mucus, or remain uncombined. When secreted scantily, and unmixed with mucus, it is often absorbed in the vagina, so as not to appear at all externally. If this is the case, the patient may suffer from decided ulceration, and yet have no recognized vaginal discharge. When the purulent secretion is abundant, or when it is mixed with a large quantity of mucus, more or less reaches the exterior; and the patient is said to have the whites, the generic term under which are popularly designated all non-sanguinolent discharges from the vagina. When the discharge is purely purulent, it is generally thick, yellow, and seldom very abundant. When it is semi-mucous, or entirely mucous, its character varies, as we have already seen, according to the region which secretes the mucus. The mucus in these cases is the result of the congested or inflamed state of the mucous follicles of the cervix, of the cervical cavity, and of the vagina; and as congestion generally accompanies inflammation and ulceration of the cervix, it varies in quantity according to the intensity of the congestion, and in nature according to its seat.

As already stated, the white, milky, creamy fluid so commonly met with in females, which has given its name to vaginal discharges generally (whites, leucorrhœa, fleurs blanches), is the result of the mingling of the alkaline mucus which is secreted by the numerous mucous follicles that line the cervical cavity with the acid mucus of the follicles of the vagina.

The thick, tenacious, ropy, transparent, white-of-egg mucus, is secreted, as also elsewhere stated, by the mucous follicles occupying the cavity of the cervix, and possibly also by the lining membrane of the uterus. I have always found it occupying, and issuing from, the cavity of the cervix. This peculiar secretion seems scarcely ever to take place in any quantity, unless inflammation be present in the interior of the cervix, and its existence is, consequently, nearly always an indication of inflammatory disease in the cervical canal. The white milky mucus, on the contrary, which is found on the exterior

of the cervix, and in the vagina, is often met with when mere congestion is present, whatever its cause. Thus it is observed in very many women who have no disease whatever of the uterus, for a few days before and after menstruation, when the uterine organs are in a state of physiological congestion. At first, it certainly must appear rather strange that inflammation of the mucous membrane lining the cervical canal should often be only attended, even in the advanced stages of its existence, with the secretion of a large quantity of transparent mucus. We may, however, find an analogy in other mucous membranes, as, for instance, in that which lines the nasal fossæ. Inflammation in this region, constituting what is commonly called "a cold in the head," also gives rise to an abundant secretion of the same kind of glairy mucus.

The amount of the morbid secretion, from these various sources, in inflammation and ulceration of the neck of the uterus, is sometimes considerable. It then appears externally in large quantities, is found in abundance in the vagina, especially in its upper region; and on the introduction of the speculum, until wiped away, completely conceals the cervix. When thus abundant, however great the congestion and inflammation of the cervix and vagina, if the disease is of a purely inflammatory nature, the discharge is always, or nearly always, partly mucous, not entirely purulent. The discharge of immense quantities of unmixed pus from the vagina is very uncommon in simple inflammation, and appears to be all but characteristic of gonorrhœal inflammation in the female. (See Chapter X.)

The vaginal discharge in ulceration of the cervix is not unfrequently tinged with blood. This occurs more especially after any effort or exertion, or after intercourse; but it may take place at intervals, without any appreciable cause. In some instances, the exudation of blood, in more or less abundance, will occur regularly for a week or more after each menstrual period, or even during the entire interval of menstruation. In these cases, the blood evidently escapes from the ulcerated surface, and seldom appears in large quantities. Generally speaking, during the interval of menstruation there is only a slight occasional show, the blood being nearly always mixed with the other muco-purulent secretions. Sometimes, however, pure blood escapes, and severe hemorrhage may take place under these circumstances. It is generally pure unmixed blood, but in small quantities, that is observed after intercourse, and its presence at such a time may be always considered a very important symptom; indicating the existence of an ulcerated surface within reach, liable to be bruised and injured by pressure. The lengthened sanguinolent discharges that not unfrequently follow laborious confinements, abortions, and miscarriages, lasting without intermission for weeks and even months, and proving so intractable to treatment, are nearly always connected with, and caused by, ulceration of the neck of the uterus, or of its cavity. This, however, is too important a subject to be cursorily examined, and will be fully studied in a subsequent division of this work.



In connection with the vaginal discharges above described, may be mentioned the secretion and expulsion of flatus from the uterine organs, which is occasionally observed. In all the cases in which this symptom has been mentioned to me, I have found, on examination, that the patient was suffering from inflammatory ulceration of the cervix; and, generally speaking, it has subsided on the removal of the uterine disease. I am therefore, I conclude, warranted in believing that the flatus, in these instances, is produced by the decomposition of the morbid fluids to which the inflammatory disease gives rise. It may evidently take place in either the uterine, cervical, or vaginal cavity. It is always a source of great annoyance and distress to the patient, and sometimes persists in a modified manner after the removal of disease, especially during menstruation.

*Inflammatory Hypertrophy.*—Inflammatory ulceration of the cervical mucous membrane is generally followed, in the course of time, by important changes in the structure, size, and form of the organ. One of the first effects of the disease is, as we have seen, to produce congestion and swelling of the central structures of the uterine neck; the cervix becoming larger, but at the same time remaining soft and elastic. This state may long continue without any other change taking place. I have often found the cervix enlarged, swollen, and congested, but perfectly soft, after years of disease; especially when the disease has been limited to the cavity of the cervix or to the immediate vicinity of the os. Generally speaking, however, this is not the case. The central tissues are not only congested, but inflamed; effusion of plastic lymph takes place in their structure, and becomes more and more organized. Thus the cervix is not only enlarged, but also indurated. At first, the central induration is evidently of an active inflammatory nature, as indicated by the increased heat of the organ, the vivid redness, and sometimes the pain on pressure. If the disease is not subdued, in the course of time these symptoms of inflammatory action partially subside, and the cervix becomes the seat of mere chronic hypertrophy, the inflammatory origin of which is scarcely discernible. The extent to which inflammatory hypertrophy of the cervix may be carried is perfectly surprising; the size of the uterine neck thus affected varying from that of a small walnut to that of a man's fist.

In virgins, and in women who have had no children, the cervix does not usually enlarge to any great extent. It is often indurated, although but little if at all increased in size, the finger detecting the induration and structural change without the eye perceiving it. When it does enlarge in virgins, the neck of the uterus seldom becomes more than two or three times the natural size, although exceptions to the rule are met with, especially with those who are advanced in life.

In women who have borne children, on the contrary, central induration and structural hypertrophy are much more commonly met with. Owing to the greater vascularity and vitality of the uterine tissue, inflammation more readily extends to the central structure of the

cervix. It is, consequently, not only more frequently followed by induration, but when induration does occur, it is nearly always much more extensive than in virgins or even than in sterile females. It has been asserted by several French writers, that the inflammatory hypertrophy of the cervix so frequently observed in women who have had children, and who are suffering from inflammation of the cervix, is the principal cause of the ulceration which so often accompanies it; or, in other words, that the ulceration is generally a secondary affection. This assertion, however, is evidently an error. I have often been able to follow the extension of the inflammation accompanying ulcerative disease to the deeper-seated tissues, and to watch the gradual manifestation, under its influence, of deep-seated induration. Thus I have repeatedly seen cases in which a slight ulceration was at first the only lesion, and in which the general induration which subsequently made its appearance, gradually became more and more marked as the ulceration increased in extent. I am also continually meeting with ulceration confined to one lip, accompanied by induration and hypertrophy of that lip only. Indeed, there is generally, in recent cases, a very evident conformity between the degree of the general induration and the extent and duration of the ulceration. In the production of inflammatory induration of the cervix, there is likewise another very important circumstance to be taken into consideration—viz., the time that has occurred since an abortion or a labor. The nearer a female is to the epoch at which she has been delivered or has miscarried, when attacked with inflammation and ulceration of the cervix, the greater will be the inflammatory hypertrophy produced by the ulceration.

The induration and hypertrophy are generally confined to the cervix; but sometimes they pass on to the body of the uterus, then obviously also the seat of inflammation. This is a serious complication, as it is much more difficult to restore to a healthy condition the body of the uterus when it is thus modified, than it is to overcome inflammatory hypertrophy in the cervix. Fortunately the induration seems most frequently to limit itself to the cervix, notwithstanding the anatomical continuity of the two regions.

Although I thus consider induration and hypertrophy of the cervix generally to be the result of the extension of superficial inflammation to the central tissues, to be the sequela, and not the cause of ulceration, the reverse may take place. Induration and enlargement of the cervix, as of the body of the uterus, may remain as a result of general metritis, especially after confinements and abortions; and by the irritation it may produce give rise to inflammation and ulceration of the mucous surface. Whatever may have occasioned the general inflammatory induration, if it persists, it certainly becomes an important cause of local disease, continually reproducing the ulceration, unless means be taken to remove it as well as the more superficial disease. This it does in two ways: by keeping up a chronic state of inflammation of the organ in which the mucous surface necessarily participates, and

by the irritation which the friction of the hypertrophied and generally prolapsed cervix against the parietes of the vagina occasions.

As the indurated cervix enlarges, the external orifice of the cervical canal, opening and expanding, assumes a transverse form; so that, instead of a circular or nearly circular orifice, we have a deep fissure presenting well-defined lips. This is more especially the case when the induration is accompanied by extensive ulceration. These lips may or may not be equally indurated or enlarged. Sometimes one is many times larger than the other. When it is the superior lip that is thus enlarged, as is most frequently the case, it covers the os uteri, which the finger must search for underneath it. When it is the inferior one the os uteri will be found above it, underneath the pubis. I have seen both the superior and inferior lip separately enlarged to such an extent as to form a kind of tumor projecting a couple of inches beyond the less hypertrophied lip.

The indurated cervix not unfrequently presents a deep rent or fissure, or is divided into separate lobes. The presence of this division of these lobes is an evidence of antecedent laceration of the cervix during an abortion, a difficult or instrumental labor, or even sometimes during a natural labor. When the lacerated surfaces do not heal, the ulceration in the course of time may be followed by hypertrophy of the segments into which the cervix is divided. These segments sometimes assume a stony hardness, and their existence often leads to the supposition that the patient is laboring under carcinoma. I have met with repeated cases of this description, in which the disease had been erroneously pronounced to be cancerous by high authorities. There is, however, a means of establishing a diagnosis, which, simple as it is, has not yet been pointed out. When the lobular, knotty, irregular condition of the cervix is the result of laceration, and is simply inflammatory, the fissures which separate the lobes radiate round the cavity of the os as a centre—which is not the case in a cancerous tumor—each separate lobe being perfectly smooth in itself, and free from tubercles or superficial inequalities. This radiated form of the divisions is the result of the lacerations having been produced by pressure from the centre during labor.

Not only is this lobular form of induration erroneously considered cancerous, but even the hard inflammatory hypertrophy which I have described is still more erroneously considered to be frequently malignant by the highest and most esteemed authorities, as we shall see when treating of uterine cancer.

When inflammatory induration exists as the result of chronic disease, and sometimes in the acute form of inflammation, the cervix is occasionally studded with diseased mucous follicles. Sometimes they are merely in a state of hypertrophy, presenting the form of hard grain or shot-like protuberances, and occasionally attaining a considerable size. Sometimes the duct is obliterated, and the follicle merely becomes distended with muco-pus, so as to form a little fluid tumor,



varying in size from that of a pea to that of a nut. These little protuberances or tumors may often be detected with the finger.

In speaking of the anatomical varieties of size which the cervix may present (pages 24, 25), I have described a cylindrical elongation of the sub-vaginal portion of the cervix, which I consider to exist occasionally as a congenital malformation, and which M. Huguier believes to be always a form of inflammatory hypertrophy. Hypertrophic elongation of the cervix uteri is, without question, generally met with as a result of inflammatory action. In such cases I consider that the inflammatory origin of the increase in length and size of the cervix is proved by the following symptoms. The rather irregular enlargement, the form of the elongated cervix being conoid, or globular, like a cow's teat, not cylindrical; the hardness and congested state of the organ; excoriation, ulceration, or other mucous membrane lesions; pains, local or sympathetic; and the frequent success of persevering local and general treatment. In the few cases I have met with, in young females, which I consider congenital, the elongated cervix was perfectly cylindrical, even when several inches in length, extending to the vulvar orifice, and so dilating the hymen as to appear externally. Its form might be aptly compared to that of a large medius finger. It was, also, rather soft and natural in texture, and free from disease. In one case there was slight inflammation of the mucous membrane of the lower portion of the cervix, which rapidly gave way to treatment, without in any way reducing the size or length of the organ. The latter was two and a half inches long.

M. Huguier has discovered—for it is quite a discovery, should subsequent research prove that he is correct—that the supra-vaginal portion of the cervix uteri, that which extends from the insertion of the vagina to the os internum, is liable to become the seat of hypertrophic dilatation, and that such is the hitherto unrecognized cause of procidentia uteri. These views, which are developed at length in the *Mémoire*, already quoted, I shall allude to more fully when speaking of displacements of the uterus.

*Displacements of the Cervix.*—The uterus, as I have stated, is not firmly supported by its ligaments, as is generally supposed, but merely suspended in the cavity of the pelvis, and kept *in situ* to a great extent by the natural contraction of the vagina around its lower segment, and by the pressure of the surrounding organs. Owing to this anatomical circumstance, the slightest modification in the volume and weight of the cervix gives rise to a change in its position—a fact which we have already seen exemplified in the body of the organ (p. 54). Inflammatory hypertrophy of the cervix increasing both the length and the specific gravity of the inferior portion of the uterus, not only does the cervix approximate the vulva, but the entire organ descends, prolapses. At the same time the cervix is very frequently directed backwards, so as to press on the posterior parietes of the vagina and on the rectum, whilst the body of the uterus may, or may not, be carried forward. This change of position, which constitutes

retroversion of the neck of the uterus, is so commonly met with in married females suffering from inflammatory induration, that it is only exceptionally we find in them the hypertrophied cervix in any other position. In their case it is evidently, to a great extent, the result of intercourse. In the healthy state, the cervix is soft and small, and yields to pressure; but when it is enlarged and indurated, it must necessarily offer resistance, and consequently be thrust backward, and lodged in the cavity of the sacrum. The constant recurrence of this physical cause of displacement eventually renders the retroversion of the cervix permanent.

Whenever there is enlargement and induration of the cervix, unless the vagina be extremely contractile, there is more or less prolapsus, partly real, partly apparent. This is especially the case when the patient stands; the degree to which the prolapsus may be carried, depending on the amount of the hypertrophy, and on the state of the vagina. If the vagina has retained its contractility—as in the virgin—it will support the uterus; but if, on the contrary, it is lax, and offers no support to the enlarged cervix—as in women who have had many children—it may fall as far as the orifice of the vulva, or even appear externally. This abnormal laxity of the vagina may be partly occasioned by the hypertrophy itself: the distension of the superior portion of the vagina by the enlarged cervix diminishing its tonicity, and the uterus then falling, as it were, into a non-contractile pouch. When the cervix thus lies low in the vagina, it gives rise to an irksome sensation of weight, dragging, and bearing-down, which may be felt, not only in the pelvic region, but in the abdomen. The patient often feels, especially when erect, as if a foreign body were about to escape from her. These sensations are occasioned, partly by the weight of the uterus bearing anomalously on the floor of the pelvic cavity, and partly by the traction which the enlarged and prolapsed womb exercises on its ligaments, and on the organs with which it is connected. When sitting or lying, the bearing-down sensation is less marked; but if the enlargement of the cervix is considerable, there may be another sensation experienced, that of a tumor, pressed up, when sitting, by the resistance of the seat.

The hypertrophied cervix is sometimes directed anteriorly, or anteverted; it then lies behind the pubis, more or less high, according to the extent of the anteversion. When this is the case, it is almost always owing to some enlargement of the body of the uterus, which causes the uterus to fall back into the cavity of the sacrum, and thus throws up the cervix.

The hypertrophied cervix occasionally lies diagonally in the pelvic cavity, to the left or to the right; so that the finger passed into the pelvis *per vaginam* in a straight line towards the sacrum, misses it entirely, leaving it on one side. When the cervix is directed to the left, as is usually the case, I scarcely consider the displacement morbid. In many non-pregnant females, as I have already stated, the uterus naturally lies diagonally from right to left, and in the cases in

question this position is merely exaggerated and rendered more apparent by the hypertrophy. I shall return to the question of cervical displacements in the chapter specially devoted to Displacements.

#### LOCAL SYMPTOMS.

Under the head of local symptoms, for want of a better term, I have classed the symptoms furnished by the extension of inflammation to the surrounding organs.

*Extension of Inflammation to the Vagina and Vulva.*—When the neck of the womb is inflamed, the congestion and inflammation nearly always extend, more or less, to the vagina. If the inflammation of the cervix is slight, the upper third or upper half only of the vagina will be congested or inflamed, and present the deep vascular hue and the mucoso-purulent secretion which characterize these conditions in the mucous membrane. If the disease of the cervix is severe, and sometimes when it is not, the entire vagina and the vulva are congested, swollen, tender, and more or less inflamed.

The vulva is not unfrequently the seat of inflammation, even when the vagina is free, or it may remain inflamed, when the vaginitis is subdued. Inflammation of the vulva, labia majora, and nymphæ is often accompanied by a very distressing symptom, intense itching. This itching has been generally described as a disease of itself, under the name of *pruritis vulvæ*. It is, in reality, nearly always connected with erythematous or follicular inflammation, either occupying the entire vulva, or what is more common, forming patches around the nymphæ or hymen, and is then a mere symptom of the internal inflammatory disease. Hence its well-known intractability to treatment. So long as the uterine disease is allowed to run its course, and the means used are only applied to the vulva, there is but little chance of its being cured, however energetic the treatment. Generally speaking it disappears, on the contrary, or is easily subdued, once the uterine inflammation has been removed. The most painful form of vulvar inflammation and pruritus, as we shall see when specially treating of vulvitis, is that in which the cutaneous surface of the labia majora is affected. The itching is then often so extreme as to be perfectly agonizing, rendering sleep impossible, and only becoming bearable when the inflamed surface has been rubbed until it is abraded and covered with blood. When this is the case, the labia are always considerably thickened, and the numerous mucous follicles which exist in this region are enlarged and visible, so as to give to the skin and mucous membrane a speckled appearance. This form of vulvar inflammation scarcely ever gives way until the uterine inflammation, with which it is generally connected, is radically cured.

The deep red hue of the vagina and vulva which is met with in inflammatory congestion and inflammation exists physiologically before, during, and after menstruation, as also during lactation. Its presence under these circumstances, therefore, must not be considered



a symptom of disease. It is merely the result of a physiological determination of blood to the uterine system, and disappears with the cause that produced it.

*Extension of Inflammation to the Rectum and Bladder.*—Inflammation of the uterine neck, when severe and chronic, not unfrequently extends to the rectum, and to the bladder and urethra, or at least exercises a morbid influence over these organs. The vascular system of the three pelvic viscera, the bladder, uterus, and rectum, is so intimately connected, that it is all but impossible for one to suffer much from long-continued inflammation without the others feeling more or less the effects of the disease. The rectum is, indeed, generally affected in chronic uterine disease. This clinical fact is explained not only by its vascular connection with the uterus, but by the physical pressure exercised on it, as we have seen, by the diseased uterus. If the body of the uterus is inflamed and enlarged, it falls back towards the cavity of the sacrum, so as to rest with its entire weight on the rectum. If the cervix is enlarged and indurated, it is generally thrust back mechanically, so as to press on the lower bowel, the body of the uterus remaining in situ or being carried forwards. In either case, the pressure on the lower bowel is attended with the same distressing results. The feces meeting with a physical obstruction in their passage into the lower part of the rectum, accumulate above and keep the upper part of the bowel permanently distended.

Their passage is also generally attended with great pain, especially if they are solid, owing to the contents of the bowel having to lift up the inflamed and indurated organ that obstructs their exit. The body of the womb, however, being infinitely more painful and sensitive when inflamed than the cervix, it is more particularly when it is diseased that the pain on defecation is very severe. Pain is often experienced when the cervix is enlarged and indurated, but by no means to the same extent. The rectum is frequently, in these cases, in a state of extreme congestion and irritation, as indicated by its great sensibility and by the quantity of mucus that is often expelled along with the feces. The combined action of these causes in the course of time appears to destroy the natural contractility of the lower bowel, and, as a necessary result, to induce obstinate constipation. Indeed constipation, from want of sensibility and contractile power in the rectum, is one of the characteristics of chronic inflammation of the uterus and of its neck.

When the uterus is much enlarged, either from chronic inflammation or from other causes, such as the presence of a fibrous tumor, the mechanical pressure on the rectum may become so great as, in the absence of proper treatment, to entirely interrupt the passage of the feces, which accumulate in the large intestine. This is more especially likely to occur when the uterus is retroverted. I have known it, however, to take place from the pressure of the enlarged and indurated uterus or cervix, prolapsed or not, or even without any uterine pres-

sure, merely from the partial paralysis above noticed—and that even in very young subjects.

Hemorrhoids and prolapsus ani are not unfrequent complications of the disease we are studying, owing to the operation of the causes that have just been enumerated—viz., obstinate constipation and the straining which it occasions, secondary congestion and irritability of the rectum, impeded circulation, dilatation and relaxation of the bowel and of its mucous surface. The attacks of piles occur most frequently at the period of menstruation, when the pelvic irritability and congestion are at the greatest height. These attacks are often very frequent and very severe, and add greatly to the discomfort of the patient.

The constipation observed in chronic uterine inflammation occasionally alternates with diarrhœa. When this is the case the diarrhœa is mostly observed at the commencement of menstruation, or a day or two before. It may last all the time of the menses, or only for the first day or two. Sometimes diarrhœa is observed during menstruation in patients thus affected who do not suffer from constipation, the cause being no doubt the extension of the menstrual congestion to the bowel. This circumstance alone has led me, in several instances, to suspect the existence of uterine disease. It must be kept in mind that an attack of diarrhœa at the commencement of menstruation is not unfrequently observed physiologically—a fact which the researches of Dr. Tilt have clearly demonstrated.

The anatomical connection that exists between the bladder and the uterus renders it nearly as liable as the rectum to suffer, secondarily, when the neck of the uterus is the seat of inflammatory disease. The bladder and urethra may become congested and irritable, giving rise to pain above and behind the pubis, accompanied by a frequent desire to pass water, to difficulty in its excretion, and to heat and scalding in the urethra as it passes.

Congestive irritability or subacute inflammation of the mucous membrane of the bladder, of its neck, and of the urethra, are often produced in chronic inflammation of the cervix, as of the body of the uterus, by the morbid state of the urine. In inflammation of the uterine neck there is the same intense sympathetic reaction on the organs supplied by the sympathetic nerves, and as an inevitable result, the same depraved state of digestion, assimilation, and general nutrition. The kidneys eliminating in abundance urate of ammonia, uric acid, phosphate of lime, oxalate of lime, &c., the presence of these salts in the urine often occasions great inflammation of the mucous membrane lining the urinary system, kidneys, ureters, bladder, and urethra. The existence of irritation of the bladder in uterine disease, as the direct result of the contact of morbid urine with the mucous membrane, does not appear to have been recognized by uterine pathologists; at least, I do not recollect seeing it mentioned. The vesical irritation which is so common in this class of diseases is generally, and, in my opinion, in most cases erroneously, attributed to displacement of the womb, whenever such displacement exists. Not but that I admit that the

irritation may originate in this manner, when the displacement and the consequent traction on the bladder are very great.

It is difficult, but not impossible, to recognize from the symptoms the cause of the vesical irritation. If it is occasioned by mere extension of the inflammation to the bladder or to its neck, the irritation is observed when the uterine inflammation is at its height; there is not only pain on passing water, but often great difficulty of excretion, or even complete retention. These symptoms, and more especially retention, reoccur with the greatest intensity during the menstrual epochs, when, generally speaking, the uterine inflammation becomes exacerbated. As the inflammation of the cervix subsides during the interval of menstruation, the dysuria diminishes, and the pain becomes bearable. Moreover the urine may be clear in these cases, and free from morbid salts.

Irritability of the bladder may also be connected with, and originate in prolapsus of that organ. Vesical prolapsus is principally observed in women in whom the vaginal walls have been relaxed beyond measure by repeated confinements; or in women advancing in life, between fifty and sixty. In the latter the influential predisposing cause is, no doubt, the gradual atrophy and loss of contractile power, which takes place in the vagina after the cessation of menstruation, as well as in the uterus and in the uterine organs generally. The bladder carries before it the anterior wall of the vagina, and appears at the upper commissure of the vulva, underneath the meatus urinarius, forming a soft tumor, which is often mistaken for prolapsus of the uterus. As a female suffering from vesical prolapsus cannot entirely empty the bladder, unless she replace the prolapsed organ when it is evacuated, the urine stagnates, and produces subacute inflammation, which is followed by the secretion of muco-pus and the formation of ammoniaco-phosphatic salts.

When the irritation of the bladder and urethra, whether the result of mere congestion or of subacute inflammation, is occasioned by the contact of urine loaded with morbid salts, whatever their origin, the difficulty and pain on passing water are not quite so great, but are more permanent. There is also a very characteristic dull aching pain in the region of the neck of the bladder, from which the patient is never free; and the urine is found, on microscopic examination, to be loaded with salts. These symptoms are generally seen with the greatest intensity in cases of uterine disease in which the inflammation of the uterine neck has become quite chronic. Not unfrequently they make their appearance, for the first time, or become greatly exacerbated, after the disease of the cervix uteri has been completely cured. It would appear as if the inflammatory ulceration of the cervix had a kind of derivative or counter-irritant effect, which prevented the irritable state of the bladder from becoming apparent. So long as this internal counter-irritation lasts, the irritability of the bladder is obscure, in abeyance as it were; but it becomes distressingly evident when the uterine disease has been subdued. This important



fact not being recognized in practice, the existence of these symptoms is a fertile source of error. I have frequently, of late years, been consulted in cases in which the uterine disease having been entirely overcome, the sudden or gradual appearance of the symptoms of irritable bladder had been mistaken, both by the patient and her medical attendant, for a relapse of the uterine affection, or for the indication of some obscure uterine lesion still undiscovered. I have also, repeatedly, seen irritability of the bladder, occurring under these circumstances, erroneously considered the evidence of calculus, or of severe organic disease of the urinary organs. Such errors, however, need never be made, if the symptoms indicating the presence of this form of vesical irritability are carefully investigated, and the above facts borne in mind.

The dull aching pain which exists in these cases is evidently referable to the neck of the bladder, and is felt just behind and above the symphysis pubis. The pain is always present, although aggravated by the excretion of urine. It sometimes extends all over the inferior and median hypogastric region, reaching nearly as high as the umbilicus. There is also frequently pain, of a dull, heavy kind, on both sides of the upper lumbar region of the back, in the region of the kidneys; and shooting darting pains along the course of the ureters, from the kidneys to the bladder, are often experienced. On examining per vaginam, and on pressing the urethra and neck of the bladder with the forefinger against the pubis, more or less pain is felt, which is not the case in the healthy state. Sometimes, also, there is a certain amount of swelling and puffiness about the neck of the bladder, the existence of which may be similarly ascertained. The desire to void urine is very frequent, and as the urine passes along the urethra, it gives rise to a sensation of scalding. The patient is often obliged to get up several times in the night, to empty the bladder. I occasionally see cases in which the water can scarcely be retained for more than half an hour.

Morbid salts may exist in the urine for years, as a result of depraved digestion and assimilation, without giving rise to irritability, either congestive or inflammatory, of the mucous membrane of the urinary system. But when it has once appeared, from this cause, it is exceedingly difficult to overcome, the irritation being continually kept up by the cause that occasioned it—the morbidly constituted urine. In many instances it is only after the urine has become healthy, and remained so for months, that all irritation about the bladder finally disappears. During this time the exfoliation of epithelial scales is sometimes so great, that they are plainly visible to the naked eye, and collect in large quantities at the bottom of the glass. Vesical irritability appears to be more frequently congestive than inflammatory, if we may judge from the ordinary absence of pus globules in the urine. I shall revert to this subject, when treating of digestion and nutrition (p. 105).

*Pain and its Seat.*—One of the chief causes that has hitherto tended

to keep the profession in ignorance of the frequent existence of inflammation and ulceration of the uterine neck, is, that the disease very often exists without giving rise to pain or uneasiness in the region affected, and that when pain is experienced, it is often at a distance from the anatomical seat of the disease, in regions which are perfectly healthy. Extensive inflammatory and ulcerative disease of the cervix may be present for years without giving rise to pain, or to any well-marked local symptom; the only evidence of its existence, especially to a superficial observer, being functional derangements of the uterus, and sympathetic reactions which we have yet to investigate.

The pain occasioned by inflammation and ulceration of the uterine neck is occasionally felt behind the pubis, the anatomical seat of the diseased cervix, but more frequently in one or both of the ovarian regions, in the lower lumbar, and in the upper sacral regions. Singularly enough, in nine cases out of ten, it is the left ovarian region alone, and not the right, or both, that is the seat of pain. This localization of the pain produced by inflammation and ulceration of the cervix uteri in the left ovarian region may be connected with some peculiarity of the distribution of the uterine nerves, but I have hitherto been unable to discover any anatomical reason for the preference thus shown. The fact, however, is undeniable, and renders the existence of a dull, aching, constant, circumscribed pain, in the left ovarian region, all but pathognomonic of inflammatory disease of the cervix uteri. The pain in the back is of the same dull, aching character. It is sometimes scarcely perceptible, only amounting to what the patient calls a "weakness;" except, perhaps, after fatigue. In many instances, however, it is very severe, and may be perfectly agonizing, incapacitating the patient for any exertion. She feels, she says, as if the back were broken, and she can neither stand nor sit erect with comfort. When there is pain in the region of the uterine neck, it is experienced behind and above the pubis. It is seldom circumscribed, like the ovarian pain, but radiates all over the lower hypogastric region. The pain occasioned by irritability of the bladder occupies the same region, the supubic. The two pains not unfrequently co-exist.

When the pain is in the neck of the uterus itself, or extends from it to the entire uterus, as is sometimes the case, the patient is often liable to uterine spasms, or tormina, after fatigue or exertion, or without any apparent cause. These spasms are more especially likely to occur during or after menstruation, when the habitual uterine pain is generally increased. Indeed, in many cases, severe uterine spasms come on during that epoch in females, who during the menstrual interval have no pain in the uterus itself or elsewhere, or merely experience pain in the ovarian or dorsal regions. Thus the manifestation of uterine spasms after fatigue, or during menstruation, may lead to the discovery of disease in females who present scarcely any other tangible symptom of its existence.

These three pains, the lumbo-sacral, the ovarian, and the lower hypogastric (I name them in the order of their relative frequency), may exist conjointly or separately. They are produced alike by inflammation without ulceration, and by inflammation with ulceration. They are, however, much more marked when there is ulceration, more frequently severe, and much more constant. The uninterrupted persistence of one or all of these pains, even when slight, is an important feature in their character. They may be better or worse; better after rest, and in the interval of the menses, worse after fatigue, and at the menstrual epoch; but they are nearly always present to a certain extent. The patient may forget their existence for a time, under the influence of mental excitement; but if she analyzes her sensations, night or day, she finds that the pains have not left her—*“hæret lateri lethalis arundo.”* When back-ache, on the contrary, is the result of general debility only, it is essentially intermitting, coming on after fatigue or exertion, and disappearing after rest. The ovarian and hypogastric pains, which are often felt during menstruation by healthy females, likewise disappear entirely during the catamenial interval.

The local pains of inflammation of the cervix have been confounded by many writers with neuralgia of the uterus; and owing to this circumstance, the descriptions which are given of this latter form of uterine disease are obscure and imperfect. In real uterine neuralgia, the pain is situated in the uterus itself, to which it is referred by the patient throughout the attack, or in the uterus and ovaries simultaneously. This pain, generally speaking, comes on suddenly, without being preceded by any premonitory symptom, unless it be slight numbness. A few minutes before and after the attack, the patient may be perfectly well and free from pain; whereas, during its existence, she is often rolling in agony on the bed or the ground. Real neuralgia is essentially intermitting in its character, returning for a limited time, at stated intervals, during the twenty-four hours. Sometimes the attacks only occur once in the twenty-four hours, sometimes oftener. They last from an hour or two to ten or twelve. An attack is composed of a series of paroxysms, each of which is followed by a period of comparative freedom, of variable duration. During the attack, pains are also felt in the lumbo-dorsal, ovarian, and other uterine regions; and there may be exquisite cutaneous sensibility of the entire abdominal region. All these pains, however, disappear, along with the uterine tormina, as soon as the attack ceases, merely leaving for a time numbness and soreness. The patient then rallies, and, in some cases, loses so completely all painful sensations, that, were it not for the recollection of the past, and the fear of the future, she would scarcely know there was anything amiss with her. On examining a patient who presents these symptoms during the interval of the attack, the cervix and the body of the uterus are sometimes found healthy and free from all morbid sensibility. Occasionally, however, some lesion is discovered, which is evidently the origin of



the neuralgic symptoms; such as a fibrous tumor developed in the tissue of the uterus, or an ulcerated state of the cervix. In these latter cases we find the neuralgic attacks co-existing with the symptoms which are peculiar to these morbid states.

Uterine neuralgia is often accompanied by general neuralgia, or tic, in the face, head, neck, back, chest, or elsewhere. The attacks either coexist or alternate with the uterine pains. The general neuralgia usually subsides, like the local one, when any uterine mischief which occasioned it has been cured. It may, however, persist for months or years after all uterine disease has been removed. In these cases, although the attacks of tic are often connected with menstrual and uterine phenomena, it may be said to exist independently of them, and be assimilated to idiopathic neuralgia. Thus, I have still under my eyes the case of a lady whom I cured ten years ago of severe ulcerated uterine disease, the result of repeated miscarriages. She then suffered from agonizing uterine and ovarian neuralgia, which often assumed the general type. Although free from all uterine disease, she has ever since remained a confirmed neuralgic sufferer. The neuralgia returns every winter with the cold weather, and lasts many months in a very aggravated form, resisting the most energetic and varied treatment, and subsiding only as summer advances. She has been free one winter only, which was passed in a warmer climate. In such cases the uterine disease is merely the point of departure for neuralgia in constitutions predisposed thus to suffer.

In gouty or rheumatic constitutions, uterine pain may be connected with the peculiar diathesis, and assume a gouty or rheumatic character. Such cases are, however, rare; at least, they are seldom met with in a characteristic form. Gouty or rheumatic metritis, as a special form of inflammation, must be exceedingly rare, for I cannot recollect having met with a single well-marked case.

In addition to the lumbo-sacral, ovarian, and hypogastric pains which more peculiarly characterize inflammation and ulceration of the uterine neck, there are often other pains present, which must be attributed to the same cause. Thus the patient sometimes complains of pain in the hip, round the crista of the ilium, in the groin, and down the thigh; posteriorly along the course of the sciatic nerve and its divisions; and anteriorly and internally along the course of the anterior crural and the obturator nerves. These pains are evidently either the result of the direct pressure of the enlarged uterus on the origin of the nerves, and on the sacral plexus in the cavity of the pelvis, or they are sympathetic, like that of the back. The lumbo-sacral back-ache appears to be principally located in the ultimate divisions of the spinal cord, as they pass through the sacrum and the lower lumbar vertebrae. The lumbo-sacral pain may also partly proceed, like the ovarian, from the sympathetic nerves and plexuses. A dull, aching pain seems to be the characteristic form in which pain manifests itself in the sympathetic system of nerves. It is the character of the pain produced by irritation and chronic inflammation of

the heart, the stomach, the liver, the bladder, and the other organs supplied by this system of nerves.

Sometimes pain is felt in the sole of the foot, as well as along the course of the above nerves, and it may be so severe as to prevent the patient putting her foot to the ground. When this is the case, the plantar pain is erratic and capricious in its manifestation. It may exist for days or weeks with great severity, and then disappear, with or without treatment; but seldom permanently, until the uterine mischief be radically cured, sometimes not even then. This plantar pain is sometimes experienced in diseased conditions of the urinary organs, kidneys, bladder, or urethra, in women as in men.

The pains which have just been described are all referable to the diseased cervix uteri. They may be complicated by those which accompany irritability of the bladder or rectum. When such is the case, the local sufferings of the patient are often very great.

#### FUNCTIONAL SYMPTOMS.

The functional symptoms are those which are afforded by the two great functions of the uterus—menstruation and impregnation. Inflammation, both acute and chronic, nearly always modifying the functions of the organs which it attacks, those of the uterus, as might be anticipated, are generally more or less disordered by the existence of inflammation of its neck. These functions, however, being connected with the preservation of the species only, and their integrity not being indispensable for the preservation of the life of the individual, it is not surprising that the aberrations which they present, under the influence of obscure and chronic disease, often attract but little attention.

*Menstruation.*—Inflammation of the cervix seldom exists for any length of time without modifying, unfavorably, menstruation. But owing to the great variations that exist, physiologically, in healthy females, as to pain, periodicity, duration, and amount of sanguineous discharge, it is impossible to establish any precise standard, applicable generally, by which we may judge of the state of menstruation in any given patient, with reference to the existence or the non-existence of inflammatory disease of the neck of the uterus.

It may be safely asserted, however, as a general rule, that under the influence of inflammation developed in this region of the uterus, menstruation becomes morbidly and permanently modified, painful, anomalously scanty or abundant, and irregular both as to periodicity and duration. These variations not being incompatible with health, within certain limits, their presence does not necessarily indicate the existence of inflammatory disease; but we are warranted in suspecting the presence of inflammation whenever menstruation, *previously easy and regular*, becomes laborious, painful and irregular, as compared with its previous history in the patient. In a word, the existence or non-existence of morbid symptoms in connection with menstruation,

must be ascertained by the analysis of the entire uterine life of the patient, and by the comparison of the present with the past. It is with herself only, *when in health*, that we can compare her, if diseased.

The *pain* experienced during menstruation, when the cervix uteri is inflamed, is greatest for the first few hours, or for the first day or two, like the physiological menstrual pains. Unlike the latter, however, it often persists with great severity during the entire period, and for some time after. Occasionally it is most agonizing and continued; so much so as to confine the patient to her bed, and to render sleep impossible for several days and nights. It is then nearly always accompanied by nausea and sickness, and by some degree of general febrile reaction. The pains are of the same nature as those experienced during the menstrual interval, lumbo-sacral, ovarian, and hypogastric. The dorsal, uterine, and ovarian pains are, generally speaking, alike intense. They are constant, but diversified by occasional uterine tormina. The entire lower abdominal region is painful in these extreme cases, and often so sensitive as scarcely to bear the pressure of the bedclothes. Even then, however, the sensibility is greatest in the ovarian regions. The pain is often so distressing as to lead to the administration of very large doses of opium. I have repeatedly had patients who have gradually been obliged to increase the dose of laudanum, at first medically prescribed, until they took a wine-glassful or more at a time.

The great increase of the pains occasioned by inflammation of the cervix during menstruation, is owing, partly to the congestion that accompanies menstruation distending the more than usually sensitive tissue of the cervix and body of the uterus, and partly to temporary exacerbation of the local inflammation. I often compare the exacerbation that occurs at this period to the pain which is experienced in an inflamed finger, or a gouty foot, if the diseased organ is allowed to hang down, so as to allow the blood to gravitate into and distend the inflamed tissues. In patients thus suffering, there is evidently at each monthly period a revival and an extension of the local uterine inflammation. A large proportion of the cases of severe dysmenorrhœa, generally supposed to be merely functional, are, without any doubt, cases of this description.

Sometimes, on the contrary, menstruation seems to relieve, to suspend, the pains occasioned by uterine inflammation. This is more especially the case when the flow of blood is very free and easy, without tormina and clots. Thus, the pain may be increased at first, when the flux is scanty, relieved whilst free, to again increase as it subsides.

The *periodicity* of menstruation is very frequently modified by the existence of local inflammation of the cervix. The menses either return too frequently, or are retarded in their manifestation. Thus, instead of appearing every four weeks, the ordinary physiological time, they appear every three weeks, or even more frequently, or are delayed from a few days to several weeks or even months. The influ-



ence of inflammation and ulceration of the cervix in retarding the appearance of the menses after parturition is very remarkable. When the cervix is thus diseased, the return of the menses is often retarded for two, three, or four months, although the patient be not nursing.

In some exceptional instances the menstrual flux appears regularly twice in each lunar month, in which case it may be termed "bi-monthly." The discharge that appears between the regular periods seldom lasts more than a couple of days. It may be sanguineous, or sanguinolent, or merely mucous. It often persists in the latter, or mucous form, for months or years after the removal of all uterine inflammation. I have never observed regular bi-monthly menstruation in perfectly healthy females free from uterine disease, present or past. Its presence may, therefore, be considered presumptive of the existence of uterine inflammation, and has repeatedly led me to the discovery of such disease when other symptoms were obscure. The intermediate flux, whether consisting of blood, or merely of an abundant mucous discharge, is generally accompanied by the same pains and sympathetic symptoms as the regular menstrual show.

The *duration* of the menstrual flux is also morbidly modified by the local disease. It may be either increased, lasting two or three times as long as in health, or diminished in the same ratio. It is most frequently, however, diminished. The flow of blood sometimes ceases for a day or more, to return again for a longer or shorter period. Occasionally, also, it appears to be prolonged for several days by a sanguineous exudation from the ulcerated surface. This is proved to be the case by the cauterization of the ulceration putting a stop to the discharge.

The above remarks apply equally to the *quantity* of the sanguineous discharge, which may be increased or diminished, but is most frequently diminished. These changes in the amount of blood excreted during menstruation are, apparently, the result of extreme congestion, occasioned by an anomalous determination of blood to the uterus, under the influence of local irritation. The uterus thus congested may be unable to relieve itself of the blood that distends it, or may on the contrary pour it out too freely. That such is, in most instances, the cause of these morbid changes in the amount of blood secreted during menstruation is shown by the fact that the application of leeches to the cervix, or even the abstraction of blood from other parts, will often increase the discharge if it is too scanty, bring it on if retarded, and diminish it if too abundant.

The quantity of blood lost may be so great as to constitute flooding. This more especially occurs when the uterine neck is the seat of very vascular ulcerations. I believe that in these cases part of the blood excreted escapes from the diseased surface itself, although in the healthy state the menstrual secretion evidently takes place from the lining membrane of the uterine cavity. These menstrual floodings, the result of inflammatory ulceration of the cervix, are more especially

observed when the menses first return after abortion or parturition, and at their final cessation.

On the other hand, the quantity of blood excreted may be so small as merely to tinge the patient's linen for a few hours, or for a day or two only. When this occurs, and even sometimes when the flow of blood has been free, the uterine circulation does not return at once to a normal condition, but remains for a longer or shorter time, after the cessation of the catamenia, in a state of congestion. This state of uterine congestion may perpetuate itself during the entire menstrual interval, unless it be artificially relieved; feeding as it were the local disease.

This post-menstrual congestion will often continue to show itself for months, or even years, after the removal of all uterine disease, as we have seen also to occur after inflammation of the body of the uterus. It would appear in such cases as if the womb, weakened by inflammation, had not the power to expel the menstrual blood after the cessation of the catamenial flow. This form of congestion exercises a most unfavorable influence on the state of the patient, keeping up all the uterine sympathetic reactions if not relieved by treatment.

At first it strikes the observer as rather singular that inflammation of the cervix uteri should in one female cause menstruation to be too frequent, too prolonged, and too abundant, whilst in another the menstrual flux is retarded and diminished in duration and quantity. I believe the explanation of this fact is to be often found in the previous constitution of the sufferer. Those females who in health are abundantly menstruated and for a lengthened period, show a tendency to hemorrhage, under the influence of uterine disease, as also during and after parturition or miscarriage. Those, on the contrary, in whom in health menstruation is scanty and irregular, show in disease the contrary tendency. In a word, disease exaggerates the constitutional predisposition.

The morbid uterine congestion that generally accompanies and follows menstruation in inflammation of the cervix exercises an unfavorable influence on the disease. In most instances the inflamed or ulcerated surface will be found more tumefied, more irritable, more angry-looking than usual on the first examination after the catamenial discharge has ceased; and sometimes it takes a week or more to bring the diseased parts into the state in which they were before menstruation set in. When this is the case, it may really be said that the patient suffers a relapse every month or three weeks, and that we have in each month only ten or fourteen days available for treatment. Occasionally, on the contrary, even in the most severe cases, menstruation does not appear in the slightest degree to interfere with the curative process, which progresses during its presence as rapidly as at any other time. The inflammatory congestion which I have described as subsequently existing is then but seldom observed.

*Impregnation.*—Menstruation is a function preparatory only to impregnation; its office being periodically to prepare the uterus to

receive, retain, and nourish the product of conception. Reflection alone might lead to the conclusion that inflammatory and ulcerative disease of the cervix must modify, more or less, this the principal function of the uterine system; and experience shows that such is really the case. Inflammation of the cervix is by far the most frequent local and recognizable cause of sterility; both in originally sterile and in previously fruitful females. The great majority of originally sterile females by whom I am consulted, present some obscure inflammatory affection of the uterine neck, which can nearly always be traced to the period immediately following marriage, and in some to an epoch antecedent to marriage. Not only does inflammatory disease of the uterus generally appear to strike with sterility most of those whom it attacks who have never conceived, but it also frequently renders sterile for a time, or even permanently, women who have previously borne children. This is so often the case that if a female in the prime of life, who has previously been fruitful, suddenly stops child-bearing without any evident cause, and if her general health fails, or she presents the slightest uterine symptoms, we may at once suspect the existence of inflammation of the neck or of the body of the uterus.

Some females, however, present so great a susceptibility to conception that inflammatory disease of the uterine neck, however extensive, does not appear to prevent it. When impregnation takes place under these circumstances the pregnancy is generally painful and laborious, checkered by hemorrhagic fluxes, and frequently terminates in abortion. Thus I have ascertained local disease to be all but invariably the cause of the successive abortions that occur with some females in the first few years that follow marriage. It is also one of the most frequent causes of the abortions that occur in child-bearing women. I must, however, refer to the section in which I treat of inflammation of the uterus in pregnant women for information on this very important subject.

It is difficult to determine, precisely, in what way inflammation and ulceration of the neck of the uterus occasion sterility, although careful and lengthened observation enables me to assert most confidently the fact. No doubt, the modes in which the disease operates are manifold, varying with the peculiarities of each case. The very existence of inflammation of the cervix and its cavity, especially when the body of the uterus is also compromised, may so modify the vitality of the uterus as to render it unsusceptible of retaining the ovum. The presence of an abundant muco-purulent secretion in the cavity of the cervix, or at its external orifice, may oppose a mechanical obstruction to the penetration of the semen into the uterus; or the thickening and hardening of the deep structures of the cervix, occasioned by inflammation, may so far diminish the cervical canal as to all but close the communication between the uterine cavity and the exterior, giving rise, on the one hand, to dysmenorrhœa, and on the other, to sterility.

This cause of sterility may be removed, by curing the inflammatory disease to which it owes its origin. Although impregnation does not



always follow its removal, I can safely say that the cases in which sterility is occasioned by the existence of this cause are by far the most favorable for treatment. I continually succeed in effecting the cessation of sterility, which has existed for many years in young married females, by removing the local disease that evidently occasioned it. I am also continually seeing patients, who have ceased childbearing for years, owing to the existence of inflammatory disease of the uterus, and who recover the power of conception when the local affection is cured. Sometimes patients who have thus been temporarily sterile, become pregnant even before they are quite well, in which case they seldom miscarry, even if the treatment is suspended, although the pregnancy be often laborious.

*Uterine Inertia.*—Uterine inertia, or the diminution or absence of the sexual appetite or feelings, is another important functional symptom of inflammation of the cervix, as also of uterine inflammation generally. This symptom is very frequently met with; indeed, it may be said to be generally present when the disease is severe, and is often one of the first indications of the existence of uterine inflammation. Uterine inertia is sometimes carried to such an extent as not only to be attended with an entire absence of all natural sensations, but as to inspire feelings of disgust and loathing; and that independent of any physical pain. The cause of this change in the feelings of the patient not being understood, or even suspected, great unhappiness often ensues in married life. The change is attributed to loss of regard and affection, whereas it is solely the result of physical disease. This is more especially likely to occur when the local symptoms are obscure or absent, as is so frequently the case, and when the uterine disease only manifests its existence by thus modifying the functional vitality of the uterine organs, and by debilitating and impairing the general health. As the inflammation subsides under treatment, the uterine system gradually returns to a physiological state, and this return is one of the most satisfactory and conclusive indications of a radical cure having taken place. In some exceptional cases, so far from inertia being the result of uterine inflammation, the sexual feelings are exaggerated. Indeed I have known this exaggeration carried so far as to constitute a species of nymphomania. When this is the case there is often clitoric enlargement, and its concomitant or sequela, vulvar irritation, and self-abuse.

When the cervix is inflamed and ulcerated, congress is often painful. The pain may be either experienced at the time, for a few hours after, or on the following day. It may be situated at the vulvar orifice, or behind the pubis at the very site of the disease, or there may be merely exacerbation of the usual ovarian and lumbo-sacral pains. Sometimes general weakness, or mental depression only, is subsequently experienced. In cases of ulceration, congress may be followed by the discharge of a few drops of blood, or even by considerable hemorrhage. Not unfrequently, although the neck of the uterus be extensively inflamed, enlarged, and ulcerated, it is unattended by pain.

I have often been surprised to learn from patients whose uterus presented a mass of ulceration and disease, that they have been living with their husbands, just as usual, without inconvenience, until the time they consulted me. This remark, however, applies equally to to other forms of uterine disease—polypus, uterine tumor, and even to cases of advanced ulcerated cancer. Small women, in whom the vagina is naturally short, are more especially liable thus to suffer in congress.

Another functional symptom which is frequently met with, is sympathetic pain and swelling of the breasts. The breasts may be constantly swollen and painful, or only become so before and during menstruation. They are hard and tender to the touch, and the areola round the nipple may increase in size, and become darker, as in the first stages of pregnancy, the sebaceous glands also enlarging and becoming prominent. There may also be a slight discharge present from the nipple; it is generally of a serous, or semi-lactescent character.

#### SYMPATHETIC OR CONSTITUTIONAL SYMPTOMS.

The constitutional reactions produced by inflammation and ulceration of the neck of the uterus, which form one of the most important features of disease, have not, hitherto, been clearly elucidated. These reactions taking place principally through the sympathetic system of nerves, may be aptly designated the sympathetic symptoms.

The researches of modern anatomists have proved, as we have seen, that the uterus is freely supplied with nerves, and that these nerves belong principally to the sympathetic system. As a necessary consequence of the anatomical connection which thus exists between the uterus and the various organs of animal life—all of which are placed under the control of the sympathetic system of nerves—the uterus is seldom long diseased without the functions of these organs becoming impaired. This fact may be said to be the keystone to the constitutional reactions of the disease we are studying. The general symptoms which inflammatory disease of the cervix uteri produces, are nearly all indicative of the impaired activity of the functions of animal life and of subsequent defective general nutrition. The local disease is, generally speaking, too limited in extent, too isolated, and too chronic to give rise to the febrile symptoms which usually attend inflammatory affections in a more acute form in other parts of the body.

*Digestion.*—The influence of inflammation of the uterine neck, as of the uterus generally, on the functions of digestion is perhaps the most marked, the most important, and the most common of all the sympathetic reactions which we have to study; nor can we be surprised, when we consider how intimate the connection between the uterus and the stomach in the physiological state. As an illustration of this physiological connection, I would again recall to mind the sickness

that generally accompanies the increased vital activity of the uterus during the first months of pregnancy.

The *extent* to which the functions of digestion become morbidly modified varies very considerably in different individuals, although the intensity and duration of the disease may otherwise be the same. With some, digestion is merely weakened; but with the majority it soon flags, and gradually becomes more and more disordered, a host of morbid symptoms supervening. Indeed, the dyspeptic, gastralgic symptoms frequently assume such an intensity as entirely to obscure all others, completely misleading both the patient and her medical attendants with reference to the real nature of her sufferings.

These symptoms seem, generally speaking, to be more the result of difficult or depraved digestion, than of irritation or of inflammation of the mucous membrane of the stomach. The appetite may be diminished, but it is not unfrequently exaggerated. In the latter case there is generally a continual sinking, or craving for food, which nothing appears to satisfy. Nausea is very frequently present, especially during the menstrual periods, and is occasionally the forerunner of harassing and often intractable sickness. The ingestion of food is often followed by a sense of weight and oppression at the pit of the stomach and in the chest, or by the sensation of a foreign body in the throat. It may also be followed by the eructation of flatus with which the stomach is often very much distended, or by the return into the mouth of tasteless or acid fluid, or partly digested food. The occasional return, however, of small portions of partly digested, tasteless food into the mouth, without nausea or effort, by a kind of rumination, is not so much a symptom of disordered as of weak digestion. I have often attended persons who, when in perfect health, ruminate their food in this manner; they are all persons who have formerly suffered from dyspepsia. In some cases, vomiting constantly takes place after food, and even at other times. When this is the case, the body of the uterus is often implicated, and all remedies may fail permanently to arrest the vomiting until the uterine disease be subdued. In some exceptional cases, in which the sickness has resisted both the improvement of the disease and every rational plan of treatment, I have known it to be perpetuated by the abuse of alcoholic stimulants, taken as remedial agents, without my knowledge.

The eructation of flatus may be very severe and very distressing. I have known it last daily for many hours during weeks and months. In these cases the gas seems to form in the stomach with singular rapidity. Intestinal flatulence, giving rise to a semi-tympanitic condition of the abdomen is very common. In a more or less marked degree it is observed in a large proportion of cases of uterine inflammation generally, and the abdominal tension and enlargement which it occasions is often a subject of bitter complaint. It takes place, no doubt, under the combined influence of a depraved state of the digestive functions, and of sympathetic reaction on the nervous system of the intestinal canal. This symptom generally resists all treatment



specially directed against it, to disappear, spontaneously, when the uterine inflammation has been subdued.

There is frequently pain in the region of the stomach, under the false ribs on the left side, in the pit of the stomach, in the chest, and underneath the left breast, in the region of the heart. The pain is of the dull, aching character which seems to characterize it in organs supplied by the sympathetic nerves. There is often considerable cutaneous sensibility in the regions where the pains exist, which is nearly always increased by pressure. At times, the patient can scarcely bear the pressure of her stays. These pains are principally situated in the gastric branches of the solar plexus, from which they radiate to the pneumogastric and cardiac plexuses, all branches of the sympathetic system. They are evidently produced by the morbid condition of the stomach, and not *directly* by the disease of the uterus; for when the functions of the stomach are not modified by the uterine inflammation, and the stomach evidently remains free from disease, they are scarcely ever observed. They are, on the other hand, equally common in cases of idiopathic dyspepsia existing apart from uterine disease.

As a result of this disordered state of the stomach, we generally find the tongue covered with a white or yellowish fur, especially at the back part, and parched and dry in the morning. Rest is uneasy, unrefreshing, uninterrupted, and disturbed by disagreeable dreams. The patient also complains of heaviness and headache. The headache may be frontal, above the eyes, or at the upper part of the head, a very common form of uterine cephalalgia.

In addition to these more prominent symptoms of dyspepsia, another very valuable indication of its existence is to be found in the examination of the secretion of the kidneys, the morbid state of which I have already cursorily noticed in treating of irritability of the bladder. The state of the urine is often a much more delicate test of the integrity of the functions of digestion, under all circumstances, than the symptoms which I have enumerated. Indeed, I am surprised that so little attention should have hitherto been paid to the state of this secretion in dyspepsia, even by those pathologists who have written professedly on this subject. The changes that take place afford most valuable indications, not only for diagnosis, but also for treatment and for the regulation of the diet.

When the stomach is healthy, and the functions of digestion are performed in a healthy manner, in the absence of any disturbing cause, such as cold, fatigue, &c., the urine, both on being excreted and after cooling, is perfectly clear and free from deposit. This is the case both during and after digestion, as well as when no digestive process has taken place; the "*urina sanguinis*" and the "*urina digestionis*" are equally free from all turbidity or deposit. When the stomach has suffered either primarily or secondarily, and the functions of digestion are disordered, the urine is morbidly modified in various modes. The condition most frequently observed in the urine of

uterine patients, is the existence of large quantities of the urate of ammonia. If the urate of ammonia is too abundant to be held in solution by the warm urine, the latter may be turbid from the first. Turbidity in urine recently evacuated is, however, more generally connected with the presence of the amorphous phosphate of lime. If the urate of ammonia is dissolved by the urine whilst warm, but is too abundant to be held in solution when cold, the urine becomes turbid on cooling. The other morbid salts most frequently found in the urine, under these circumstances, are uric acid and oxalate of the lime. They, however, require the use of the microscope to be recognized.

When the digestive and nutritive processes are very much impaired, these changes in the urine may be observed at all times; whenever it is examined. If they are less deeply disordered, it is only two, three, or four hours after the ingestion of food—according to the length of time it takes to digest—that the urine contains the anomalous salts, and is turbid, or becomes so on cooling. When such is the case, the turbid state of the urine soon ceases to be observed, provided the stomach remain empty; again to become present for a limited time, after the digestion of a fresh supply of food. If the digestion is still less affected, the urate of ammonia only appears in the urine after the ingestion of animal substances, or of an article of food of difficult digestion, or when digestion has been disturbed by some kind of stimulant in excess, such as wine, spirits, or high seasonings. Over exertion, of mind or body, will also impair the digestion, and give rise to the same result; probably from impaired nervous power.

From the above facts, it is evident that in these instances the presence of the anomalous salts in the urine is all but entirely the result of depraved digestion; or at least in the two latter classes of cases. Owing to the weakened, morbid state of the stomach, the chyle is imperfectly elaborated, unfit for the purposes of assimilation and nutrition; and on its being absorbed by the lymphatics, and passing into the blood, the kidneys eliminate and throw out the effete chyle in the shape of urate of ammonia, triple phosphates, oxalate of lime, &c. It is surprising that nutrition should flag, and that the entire economy should suffer, and fall into a state of debility and prostration, when we find the very source of life thus poisoned—when we see the food ingested, however light and digestible, often so imperfectly chylified, that the presence of the chyle in the blood obliges the kidneys instantly to set to work to eliminate it, as they would a morbid substance, thus acting as safety-valves to the system, temporarily poisoned by the products of diseased digestion?

The emunctatory duties which have to be performed by the urinary system are not always unattended with evil to the urinary organs themselves. Thus we find patients complaining of pain in the region of the kidneys, along the course of the ureters, and in the region of the bladder, and of its neck. These pains appear sometimes to be connected with congestion and irritation of the substance of the kid-

neys, but they are more frequently the result of irritation of the mucous membrane lining the urinary passages, which I have already fully described (p. 91), when treating of the local symptoms of inflammation of the cervix uteri. This state of things, no doubt, occasionally lays the foundation for Bright's disease, and for other severe, and often fatal, affections of the kidneys.

Most writers on female diseases have remarked the coincident between leucorrhœa and dyspepsia, but they have often erroneously attributed the origin of the leucorrhœa to the dyspeptic affection; in other words, they have considered the uterine symptoms to be the result of the depraved state of the digestive functions. A more complete error could not be made. I do not mean to say that dyspepsia, by debilitating the economy, may not render any part of it, the uterus included, more liable to disease; but I have no hesitation in asserting that it is very rarely indeed that obstinate leucorrhœa can be traced to such an origin. The dyspeptic symptoms observed in obstinate leucorrhœa are *nearly invariably* the result of the sympathetic reaction on the stomach of the inflammatory disease of the uterine neck. The latter, in the great majority of cases, is the real, although the unrecognized, cause of the leucorrhœal discharge.

Inflammation of the cervix generally modifies the digestion unfavorably in the course of a short time; the extent to which it becomes modified depending, in a great measure, on the vitality of the patient. If the stomach is naturally a weak organ, it is sooner and much more seriously affected than would otherwise be the case. So continually do I observe dyspepsia under these circumstances, that the very existence of severe disorder of the digestive functions in a young female, which resists rational treatment without any apparent cause, always induces me to question narrowly the state of the uterine functions. I have thus often been led to discover the presence of extensive local disease in cases in which scarcely any local symptoms were present.

Some persons seem to be endowed by nature with such strong powers of vital resistance, or there is so little sympathetic connection between the uterus and the stomach, that they overcome the reaction of the local affection, and the digestion remains sound, notwithstanding the neck of the uterus has long been the seat of inflammation. When this occurs, the existence of uterine disease is not attended by the general debility which obtains in patients in whom digestion and nutrition give way. Thus it is that we see females apparently in good health, although presenting severe uterine disease, and racked with local pains. With them the digestive functions not having failed, the general nutrition remains unimpaired. Although, however, they may thus resist the influence of the local disease for many years, digestion and nutrition all but invariably break down sooner or latter; and I often remark, that the longer the previous immunity, the more difficult it then is to rally the powers of the system.

From what precedes, it must be obvious that the examination of the



urine is calculated to be of great assistance in estimating the extent to which uterine disease has reacted on digestion and on nutrition. It is also a valuable mode of ascertaining, week by week, how far these functions have rallied under the means of treatment used. Owing to this intimate connection between imperfect chyliification and the presence of morbid salts, and especially of the urate of ammonia, in the urine, and the facility with which the presence of the latter may be ascertained even by the patient, her attention may be rationally directed to the urinary secretion, and the nature of the changes that take place can be easily explained. She is thus put in possession of a most simple and efficient means of regulating her diet, both as to quality and quantity. No dietetic rules will ever constitute so valuable a guide, or so efficacious a check on the appetite, as the individual experience of an intelligent patient in her own case. She soon learns that by noticing the state of the urine, two, three, or four hours after the ingestion of food, according to its degree of digestibility, she can tell whether the meal has been properly digested or otherwise, and thus becomes able to diminish or change her diet, or to avoid over exertion. The information thus obtained is the more valuable, as a dyspeptic patient may not be apprised that the food she has taken has not properly digested by any appreciable symptom. Generally speaking, it is only after the digestive functions have been imperfectly performed for several days, that cardialgia, chest oppression, headache, and other symptoms of indigestion, supervene, and give the alarm. These remarks apply with equal force and truth to some of the most ordinary forms of dyspepsia when existing without any uterine complication. For further details on this important subject, however, I must refer to my work on *Nutrition in Health and Disease*, in which I have examined at some length the connection between dyspepsia and urinary deposits.

The most ordinary result of this depraved state of the digestion which we meet with in uterine disease is deficient nutrition, and consequent emaciation. The patient is thin, pale, weak, anemic. This, however, is not always the case. An abundant deposit of fat may take place on the abdominal walls, or generally, and then again a false appearance of health is produced. The stomach not having the power to transform food into chyle susceptible of assimilation with the more vitalized elements of the human economy, flesh and bone, a lower degree of nutrition only is obtained, and fat is formed. Thus is explained the positive corpulence of some females suffering from uterine disease—corpulence which they erroneously look upon as a sign of health, whereas, in reality, it is only an additional evidence of the depraved state of the digestive organs.

*Biliary Derangement.*—The functions of the liver often participate in the depraved state of the digestive system, but seldom to the same extent as those of the kidneys. The secretion of bile may be deficient, or it may be too abundant, owing either to sluggish secretion, or to anomalous activity. These conditions, however, are generally

temporary, and soon give way to appropriate treatment, so that I am not in the habit of attaching much importance to slight derangements of the biliary functions. I look upon them, in most instances, as symptoms only of the general disordered state of the digestive system—symptoms which do not require any special treatment, but gradually disappear when it is restored to a more healthy condition.

Sometimes, however, the morbid state of the biliary functions assumes a very prominent feature in the history of the case, so much so as to obscure all other symptoms. The patient is seized at intervals with severe bilious attacks, characterized at first by pain in the right hypochondrium, a yellowish tinge of the skin, and bilious headache; and subsequently, by the vomiting and purging of bile in large quantities. These attacks appear to be irregular in their manifestation, but, on careful investigation, it will nearly always be found that they are connected with menstruation. They may occur either immediately after menstruation, or one, two, or three weeks subsequently. In the latter case, however, although the vomiting and purging are thus deferred, the pain in the side, and the other premonitory symptoms, generally commence with, or soon after, the menstrual epoch. In these patients the catamenia are often scanty, and on examination, great congestion of the uterine system is met with. It would seem as if, with them, the congestion gradually extended through the portal system, until it reached the liver. This organ, in its turn, becoming the seat of great congestion, its functional activity is increased to a morbid state, until it relieves itself by throwing off the superabundant bile, which occasions vomiting when it reaches the stomach—purging, when it reaches the intestines. Sometimes these abnormal conditions of biliary secretion and excretion are accompanied by the formation of gall-stones or biliary calculi, the existence of which may give rise to all the symptoms of hepatic colic.

The congested condition of the abdominal nervous system in these cases, and the intimate connection of the abdominal veins with the uterine circulation, is demonstrated by an important practical fact which deserves especial attention: the hemorrhage that often follows the application of leeches to the neck of the uterus. I am now so accustomed to find the application of leeches to patients presenting liver congestion followed by scarcely controllable hemorrhagic bleeding, that I expect it, and never intrust the operation to nurses. The only occasions on which I have been obliged to plug the vagina to arrest hemorrhage, after leeching, have been cases of this description. In some instances, however, the congestive connection between the morbid condition of the uterus and the hypersecretion of the liver cannot be traced; the latter evidently taking place under the influence of sympathetic irritation.

In both classes of cases the uterine origin of the bilious symptoms is seldom recognized when the latter are severe. Nearly all the patients thus affected whom I have met with, had been long treated solely for disease of the liver. The mistake is the more pardonable, as the

uterine symptoms are often very obscure, and are generally quite thrown into the shade by those connected with the functional derangement of the liver. When once the liver has become accustomed, as it were, to these periodical attacks of hyper-activity, it is often very difficult to modify and eradicate the habit of disease, even when the uterine affection in which it first originated is quite cured. This is more especially the case if the uterus remains diseased, or subject to morbid congestion at the menstrual epoch. The liability to these bilious attacks constitutes a serious complication of the uterine complaint. They leave the patient in a very debilitated state, from which she is always a considerable time in recovering; and the digestive system generally remains for some time in a deranged state.

In several instances I have found the liver enormously enlarged, hypertrophied, or congested, in patients laboring under chronic disease of the uterine neck. In one case, that of a married sterile female of thirty, who had been suffering evidently from ulcerative inflammation of the cervix uteri for some years, the liver descended more than two inches below the false ribs, as low as the umbilicus, and nearly as low as the crista of the ilium. There were no lobes, nor any unevenness of surface, the tumor appearing to be a simple enlargement of the substance of the liver. The patient was not aware of the state of the organ, nor of the existence of uterine inflammation, although she had been long under medical treatment, and had had a pain in the region of the liver for many months. She was slightly jaundiced, and in bad health. The enlargement gradually diminished as the uterine disease got better, under the influence of blisters, and the administration of the iodide of potassium. In the course of about nine months it entirely subsided, although the uterine affection was not then quite removed. She has since perfectly regained her health. I am rather at a loss how to characterize this form of enlargement. In the instances I have met with it has generally appeared too solid to be merely the result of congestion, such as we observe in obstruction to the venous circulation from cardiac disease; and yet we could scarcely expect real hypertrophy of the liver entirely to give way to treatment in a limited period, as it generally does.

In the form of uterine disease which we are studying, the functions of the upper portion of the large intestine are frequently affected, and inaction of the bowel ensuing, occasions obstinate constipation. In this form of constipation the feces do not reach the rectum, but remain in the sacculi of the cæcum or colon, and when they are expelled, come away under the form of small hardened masses, or scybala. When such is the case, the rectum is found empty on examination. This form of constipation may exist simultaneously with that in which it results from the extension of the atmosphere of the uterine inflammation to the rectum, which has already been described.

*Respiration.*—The pains felt in the region of the stomach often irradiate, as I have stated, along the various sympathetic nerves that constitute the solar plexus, or emanate from it, and more especially along



the pneumogastric nerves. Hence, we not unfrequently observe severe pains underneath the sternum, or extending all over the chest. These pains are sometimes so severe as to interfere with the action of the lungs, and to render respiration rather difficult and painful. Their presence is always a source of great anxiety to the patient and her friends, leading them to fear the existence of pulmonary or cardiac disease, especially if these diseases have existed in their families. If the careful examination of the lungs and heart demonstrates the integrity of these organs, we are warranted in considering the pains as merely sympathetic. Severe thoracic pains, dyspnœa, and other chest symptoms, however, are sometimes present in females suffering from uterine inflammation, as the result of pulmonary disease. I have repeatedly seen patients debilitated by inflammatory disease of the uterus, attacked with pulmonary consumption. Indeed, phthisis may be said to constitute one of the remote dangers to which this form of uterine disease indirectly exposes those whom it attacks, owing to the extreme general debility which it so often occasions.

*Circulation.*—Inflammation of the neck of the uterus, when limited to the uterine neck alone, seldom gives rise to any febrile reaction, whether acute or not. Sometimes the patient becomes rather feverish in the latter part of the day, but even this is rare. It is, indeed, partly owing to the absence of the febrile reaction which generally characterizes inflammatory diseases in other regions, that inflammation of the cervix uteri has passed unobserved, until so very recently. A practitioner who is not previously acquainted with the history of the disease would never for a moment suspect that the pale, languishing, debilitated female, by whom he is probably consulted for weakness, has been reduced to this state of anemia by an inflammatory disease of the womb, still in active existence.

Although the pulse be seldom accelerated by fever, it is generally modified in other ways. Thus, it is often miserably small and feeble, quick and irregular. When this is the case, the pulse partly reflects the debilitated state of the system, and partly a direct sympathetic reaction from the uterus on the central organ of circulation.

Palpitations and irregular cardiac pulsations are very frequently met with, sometimes in a very aggravated form. Their presence, however, is all but invariably the result of modified nervous vitality in the heart, produced by the general debility or by the deranged state of the digestive organs, and is very seldom connected with cardiac disease. When such disease is discovered—it must be considered accidental, a mere complication of the uterine malady.

*General Nutrition.*—As we have seen, it is through the influence exercised by uterine inflammation on the sympathetic nervous system, with which the uterus is so intimately connected, that the various functions we have examined are disordered. These functions—digestion, respiration, and circulation—being those which control assimilation and nutrition, cannot be long in a morbid state without the general nutrition becoming impaired. The patient loses flesh,

becomes, emaciated, pale, sallow, languid, and weak; falls, in a word, into a more or less marked anemic state. Anemia, the result of depraved nutrition from sympathetic reaction, is so general in this form of uterine disease, that it may be said to characterize it in its advanced stages. Thence it is that the term "weakness" has been, and is still, used, both popularly and medically, to designate obstinate leucorrhœa, one of the most prominent symptoms of this state.

All constitutions do not, however, as I have already remarked, give way equally soon to sympathetic reaction. Occasionally, we meet with patients who have evidently been suffering from inflammation and hypertrophy of the cervix, with or without disease of the body of the uterus, for many years, and yet their strength and general nutrition are but slightly impaired. Much depends on the original strength of the patient's constitution, and on the integrity and power of the digestive system; the general health of a weak or dyspeptic female soon giving way, whilst that of a more robust person, with strong powers of digestion, will resist much longer the morbid sympathetic influence.

*Cerebral and Spinal Symptoms.*—Inflammation of the cervix does not only react on the sympathetic nervous systems—but also on the cerebral and spinal nervous systems, and often to an extreme extent. The principal cerebral symptoms are, intense headache, great depression and lowness of spirits, and groundless terrors, experienced not only during the night, but even during the day. The cephalalgia may exist in any part of the head, but it is principally observed, as I have stated elsewhere, at the summit, and over the forehead. The pain felt at the top of the head is often compared to a heavy weight pressing on it. The mental depression experienced by the patient is often extreme, and not unfrequently accompanied by delusions or hallucinations, and by the fear of insanity. This fear is not altogether unfounded, especially where insanity exists hereditarily; the uterine disease, *if unchecked*, in such cases sometimes terminating in the wreck of the mental faculties. Insanity thus produced is usually temporary, giving way when the local disease is cured, and the health of the patient is restored. When actual insanity is occasioned by the reaction on the brain of uterine inflammation, the aberration of the mind often follows a uterine direction, and a previously modest and moral female will depart strangely from the tenor of her previous life, both in words and actions. Such, however, is not always the case. I have known homicidal and suicidal mania, melancholy, hallucinations of the senses and delusions, evidently to originate in this cause, as proved by the complete restoration of the mind following the cure of the uterine disease. It is worthy of remark, that the period of the cessation of the menses in females is a critical one in this sense. I have repeatedly known the reason to give way under the combined influence of the meno-pause and of uterine disease.

Generally speaking, the mental depression is much greater before and during menstruation, and sometimes it is only experienced at that

epoch. It may be carried to an extreme extent, and be followed by tears, or by irresistible weeping for hours and days together, independently of any other hysterical manifestation, and without any ostensible cause. In some instances, slight general debility, along with great lowness of spirits and languor during menstruation, are nearly the only indications that the patient presents of the existence of the uterine inflammation from which she is suffering. The memory and mental powers are often greatly impaired. This is principally observed when the general health has been much weakened by long-continued disease.

The special senses are not unfrequently affected, and principally the sight and hearing. The sight may be merely impaired, rendered weaker by the reaction of the uterine disease; but it may also be more deeply affected, amaurosis supervening. The connection between the two morbid conditions, as cause and effect, is rendered evident by the cure of the uterine disease at once arresting the onward progress of the amaurotic affection, when everything else has failed. Unfortunately, however, the ground lost is not always entirely regained; and vision sometimes remains permanently impaired in one or both eyes.

The diminished power of vision may be owing to congestion of the choroid membrane, and of the internal structures of the eye generally, connected or not with cerebral congestion. Anemic, debilitated persons are peculiarly liable, as is shown by general pathology, to local congestion, which may show itself in any organ of the economy. This deep-seated form of ocular congestion, being generally, as it were, constitutional, is very difficult to remove.

The hearing is less frequently affected. I have, however, met with many cases in which uterine inflammation had evidently preceded, and probably occasioned, partial deafness. This form of deafness is also generally arrested by the treatment of the uterine disease, but occasionally the hearing of the patient remains permanently defective, notwithstanding the removal of the uterine malady, and every kind of general and local treatment.

The cutaneous sensibility is sometimes much exaggerated all over the body, in isolated regions, or on the left side only. When this is the case, pain is experienced on the slightest contact. This exaggerated sensibility may be confined to the pelvic region only, and be attended by a very distressing sensation of internal soreness. It appears to be generally, but not always, connected with spinal irritation.

The difficulty in walking and standing, which is so frequently observed when the uterus is the seat of inflammation, even of a chronic character, must in some instances be referred, all but entirely, to modifications of spinal innervation, as it may persist long after the entire removal of the local disease. No symptom is more variable in uterine inflammation. In some patients suffering from severe disease, locomotion is still painless and easy, and walking is persevered in. In others, who are but very slightly affected, not only is locomotion



all but impossible, but the sitting position is painful, and the patient is compelled to recline constantly. The sensibility of the inflamed uterus to pressure accounts generally for the pain and difficulty experienced in walking, standing, or even sitting, but it does not satisfactorily account for the variations above described. They can only be explained by referring them to the above-mentioned peculiar modifications of the spinal innervation.

Spinal irritation, the result of uterine disease, may become so marked in all its characteristics as to completely obscure all other symptoms, especially in young unmarried females. I have attended many cases in which the young patient was unable to walk, or even stand, owing to confirmed spinal irritation, and had been treated most energetically for months, or even years, by experienced surgeons, without success. Blisters applied all down the spine, leeches, cupping glasses, moxas, setons, indeed every form of counter-irritation, and every kind of constitutional treatment had been resorted to in vain. Guided by the presence of some uterine symptom, and also by the non-success of surgical treatment, I discovered the existence of inflammatory disease of the cervix alone, or of the cervix and uterus, and on its removal the spinal irritability has all but invariably subsided gradually. When it has not, the cause of non-success has generally been the existence of active disease of the spinal cord, chronic inflammation, softening, or thickening of the membranes. In these cases paralysis of the lower extremities generally ensues, and life itself is threatened. I have repeatedly seen females, young and middle-aged, thus perish miserably from spinal disease, the origin of which I could clearly trace to the long-ignored existence of uterine disease.

The various nervous manifestations to which the term hysterical is familiarly applied, are frequently met with in patients suffering from chronic inflammatory disease of the cervix. But hysteria as a disease, characterized by convulsions, is only occasionally observed.

This clinical fact is of itself sufficient to establish, as a pathological truth, that hysteria is not a uterine affection, but a malady of the cerebro-spinal nervous system, which is not necessarily connected with the uterus and its morbid states; although uterine disease, by its reaction on the cerebro-spinal system, often becomes an exciting cause of convulsive hysteria. The slight nervous manifestations usually termed hysterical are merely the result of over-stimulation of the cerebral system, occurring primarily or sympathetically; or of the undue prominence of the nervous system which follows great general debility, however induced.

When convulsive hysteria is really produced by the existence of inflammation of the cervix, it generally presents itself in a very severe form. The convulsions occur principally during menstruation, and may be so severe and so continued as to be followed by paralysis and to threaten life. I have met with many cases of this description

which have baffled every kind of treatment until the uterine disease was discovered and removed.

Amongst the symptoms connected with the nervous system which are only exceptionally observed, may be mentioned aphonia. I have met with several very remarkable cases in which the all but complete loss of the voice, which could only be heard in a whisper, was evidently the sympathetic result of uterine inflammation. All therapeutic means proved unavailing until the uterine disease was removed, when the voice spontaneously returned. That such cases should occur is not surprising, when we consider the physiological connection between the sexual organs and the larynx, as evidenced by the change of voice at puberty. As an additional evidence I may mention the case of a patient who lost her voice for a couple of years at the cessation of menstruation, and who told me she had also lost it for a year when menstruation originally commenced. It is also worthy of remark that occasionally persons very liable to laryngeal and bronchial inflammation, lose the tendency when under the influence of chronic uterine inflammation, to resume it when cured.

But little refreshing sleep is obtained by a person laboring under this disease in a severe form, especially when the digestion is much impaired. The state of suffering in which she is, reacts on the brain, renders sleep imperfect and interrupted, and occasionally disagreeable dreams, and nightmare. The patient often awakes in great fear, sometimes screaming in an agony of apprehension. This is principally the case when the sympathetic nerves of any of the viscera, ovaries, uterus, stomach, heart, &c., are the seat of the constant, dull aching pains which I have repeatedly described, and when the digestive system is much impaired. Existing, as they do, during sleep, as well as during wakefulness, by their continued reaction on the cerebrum, the pains and organic suffering effectually "murder rest." When the pains are absent, or slight, and the digestion is unimpaired, the sleep is often very good; sometimes, indeed, too prolonged and heavy. The dreams, when painful, are generally connected with the idea of suffering and death, often reproducing the features of departed friends, their dying moments, and the last duties paid to them. Sometimes the same dream is repeated with trying and painful frequency. When severe uterine and vulvar pains, or even mere irritation, persist during sleep, even in a slight degree, they occasionally give rise, in women, to dreams which assume a distressingly uterine character. They may fancy themselves pursued and outraged by wild animals, or by demons and unearthly monsters. Several singular and very painful instances of this kind have come under my observation, and I have no doubt that such cases tend to throw light on the "incubi" of the dark ages. They explain the wild confessions of many of the so-called witches, who, in times gone by, have perished on the stake, firmly believing that they held unholy communion with the spirits of darkness.

*Progress.*—The progress of inflammation of the cervix is very

variable both in its local and in its general manifestation. Sometimes inflammation rapidly leads to ulceration, the cervix speedily becomes hypertrophied, and the bladder and rectum soon become involved in the inflammatory action. The sympathetic reactions being also experienced, the patient, in the course of a few months, falls into a state of extreme debility. This latter condition may speedily supervene in some constitutions, even the local disease is very limited in extent and intensity.—In some instances, on the contrary, years elapse before the general health is seriously affected, even when there is extensive disease. Inflammation, ulceration, and hypertrophy may, indeed, exist during a considerable portion of the life of the patient—for ten, twenty, or even thirty years, for instance—without destroying life, although producing a constant valetudinarian state.

*Termination.*—Chronic inflammation of the uterine neck may be said not unfrequently to terminate in the death of the patient. When, however, this is the case, death all but invariably occurs *indirectly*. The debility occasioned by the reaction of the inflammatory disease of the uterus on the functions of organic life, coupled with the pain and irritation caused by the local symptoms, may, no doubt, be carried so far that the patient at last sinks under their influence. Such a termination, nevertheless, is scarcely ever witnessed by the practitioner who is acquainted with the disease and with the treatment it requires; for he has it in his power to arrest its progress, and to rally his patient, however low she may be reduced, provided no necessarily fatal complication have appeared. Although I have repeatedly seen and treated patients who, it appears to me, must have died from sheer debility and exhaustion had they been left to themselves, yet I cannot recall to mind a single instance in which death has actually taken place, under my eyes, from these causes alone. In one or two instances in which this has appeared to be the case, the post-mortem examination has revealed sufficient chronic disease in other organs satisfactorily to account for death.

The principal danger of the disease we are studying consists in its reducing the powers of the economy to so low an ebb that any cachexia, or tendency to cachexia, which lies dormant in the system, is liable to be called into action, and that the patient is both more exposed to accidental disease, and less able to resist its attacks. Thus if there is any hereditary predisposition to disease in the constitution, it is very likely to develop itself under these circumstances, and an extreme liability to epidemic influences frequently becomes apparent. A considerable proportion of the patients laboring under uterine disease under my care, at any given period, are always attacked by the reigning malady or epidemic, and often in a very aggravated form. This is more especially the case with those who are unable, from social position, thoroughly to protect themselves from unfavorable influences. There can be no doubt, therefore, that inflammatory ulceration of the uterine neck, although scarcely ever directly fatal, is a disease which brings very many females to a premature grave.



When the existence of the malady, therefore, is generally recognized by the medical profession, not only will a vast amount of suffering be spared to humanity, but a great number of valuable lives will be saved, that now fall an indirect sacrifice to its influence.

A very important question, and one which is often raised by patients, is, whether or not this disease leads to cancer. It is now well known to pathologists, that there is no immediate connection between inflammation and cancer; that cancer is not, as was formerly believed, merely a modification of inflammatory action. Although, however, the two diseases are essentially different, and the one, inflammation, cannot in any way be considered as merely constituting the first stage of the other, yet it is probable that the long-continued existence of inflammation in the cervix uteri occasionally leads to the production of cancer. It may contribute indirectly to develop the cancerous cachexia by depressing the organic vitality of the patient, and then directly determine its localization of the neck of the uterus. In the same way as the chronic irritation occasioned by a blow on the breast, will determine the development of a cancerous growth in that organ in cases in which the constitutional predisposition previously exists.

As a general rule, however, inflammatory ulceration of the cervix seems to me to have very little tendency to degenerate, and patients laboring under cancer very seldom present inflammatory antecedents. We may therefore conclude; that although the possibility of cancerous degeneration is to be entertained, it ought not to be considered a probable result of the disease, especially when the latter has been brought under the influence of rational treatment. This view of the question is certainly contrary to the generally received opinions of uterine pathologists; but as it is the result of my experience, I am bound to enunciate it. In the subsequent chapter of this work, that on the Diagnosis of Cancer of the Uterus, I shall fully discuss this important pathological point.

*Prognosis.*—The prognosis of this affection, once it is recognized and under treatment, may generally be considered favorable, provided the patient be not laboring under any incurable complication. No matter how great the debility, exhaustion, and emaciation—no matter how severe the pelvic irritation, or how intense the sympathetic reactions, all *may* be subdued in time, and the patient restored to health. There are few diseases, indeed, in which medical treatment is capable of effecting a greater change in the state of the patient. Females who have been for years racked with aches and pains, and are in a state of the most extreme exhaustion, gradually rally, and again become fresh and blooming. Nor is this surprising, when we reflect that they are not reduced to this melancholy condition by any necessarily fatal disease or cachexia, but by a malady which in most instances is amenable to therapeutic means, and which only produces debility and weakness by reacting, through the sympathetic system, on the functions of organic life.

When the uterine disease has been subdued, and the incubus has been thus taken off the system, in some patients the functions of organic life, and subsequently the general health, rally all but spontaneously. Digestion, assimilation, and nutrition again become healthy, and the patient is, in the course of time, restored to the full integrity of life. In some others, on the contrary, this complete recovery is a slow process, which in severe and chronic cases may take years to accomplish, and in some instances may never occur. The powers of life may have been too much depressed by the long-continued influence of the local affection to rally, even when all disease has been removed; or the constitution of the patient may be defective, and, although better, and freed from much disease, discomfort, and danger, she may remain languid, weak, and a prey to a host of functional disturbances. Again, the most judicious and persevering treatment may fail entirely to remove all morbid pathological changes, especially when the body of the uterus is involved, and thus the local symptoms may also be partly perpetuated. Happily such cases are the exception.

In forming a prognosis, in the early stages of treatment, we should never lose sight of these facts, which are explained by the laws of general pathology. When the antecedents of a patient are favorable, that is, if the family health is good, if her parents were young and healthy, if her own health has always been satisfactory, and has merely given way from the influence of the uterine disease under which she is laboring, the prognosis is favorable. The disease will probably yield readily to appropriate treatment, and she will probably rally and recover health soon after the uterine malady has been cured, perhaps even before.

If, on the contrary, the patient's antecedents are bad, that is, if the family health is indifferent, if her parents were infirm or aged, and if her own health has always been delicate and unsatisfactory, the prognosis is unfavorable. In such cases the local disease, generally speaking, long resists treatment, however judicious and decided. Indeed, it often becomes necessary to intermit for a time all local treatment, in order to remove other complications, or to attend solely to the general health. Moreover, in such patients the removal of uterine mischief may be only followed by the recovery of the general health after months, or even years, of immunity from local suffering and of unremitting attention to constitutional treatment.

*Diagnosis.*—In the above description of inflammation, ulceration, and induration of the neck of the uterus, I have fully considered all the symptoms, both local and constitutional, to which it may give rise. It must not, however, be supposed that all, or even the greater part, of these symptoms are present in every patient. Sometimes it is so, but most frequently a few only are observed, and in many instances merely one or two are met with. This circumstance occasionally renders it difficult to recognize positively the existence of disease, unless digital or instrumental examination be resorted to.

Inflammation of the cervix may, for instance, give rise to marked

local symptoms, such as pain in the lumbar and ovarian regions, bearing-down, and a more or less abundant vaginal discharge; and yet there may be scarcely any constitutional reaction, the patient remaining apparently in good health. This complete immunity from sympathetic reaction, however, is rare, except in the early stage of the existence of the disease. When it is observed, it must be considered, as we have seen, to indicate a strong constitution, and unimpaired digestive power, which enable the patient to resist the morbid influences.

On the other hand, the local symptoms may be absent, or nearly absent, and the uterine malady only reveal itself by the constitutional or sympathetic reactions. This so frequently occurs, that whenever in a young female we find the digestion and the general nutrition and health much disordered, and after an examination of all other organs fail to reveal an adequate cause for the change that has taken place, we are authorized to *suspect* the existence of some chronic uterine inflammation, even in the absence of decided uterine symptoms. In such cases, we must minutely investigate the uterine history of the patient, and the slightest morbid change in the functions of the organ, or the existence of the slightest morbid symptom, may often be taken as probable evidence of disease. We are thus authorized to *suspect* the cervix to be affected from the isolated existence of any of the following symptoms: sterility; increased pain during menstruation; a great change in the duration or amount of the menstrual secretion; slight or severe continued pain in the lumbar or ovarian regions; bearing-down; a permanent vaginal secretion; pain in congress; modified uterine sensibility, &c. Indeed, any one of the various symptoms which I have enumerated and described, may exist alone, in a slight form, as the sole local indication of the presence of chronic inflammation.

Such being the case, the extreme delicacy of the task which occasionally devolves on the practitioner, when called upon to decide as to the existence or non-existence of this disease, can easily be appreciated. A digital examination would, generally speaking, at once enable him to decide the question, if he is familiarized with the investigation of this class of affections; but this kind of examination is so repugnant to the feelings of all females, when not actually in the pangs of labor, that nothing can warrant its being proposed but a tolerably fair presumption, on general grounds, of the actual presence of disease. This presumption, as we have seen, may be arrived at, in most instances, without difficulty, but in some, all the tact and care that can possibly be brought to bear are necessary, in order to guide the practitioner in his conduct.

The diagnosis of inflammation of the cervix being thus difficult, in many cases, even to those who are thoroughly acquainted with the history and symptoms of the disease, it is not surprising that it should nearly always be overlooked, especially when we consider that its very existence, as a disease of frequent occurrence, is still a mystery to the



medical profession in this country, or, at least, was so when I first directed attention to its pathology (1844).

It would be useless again to enumerate the various symptoms which characterize the affection we are studying, in order to distinguish it from other diseases, as inflammation and inflammatory ulceration of the uterine neck do not present a single symptom, with the exception of those furnished by physical examination, which absolutely and solely belongs to it. The diagnosis must be based on the study and comparison of all the symptoms presented by the patient, tested by a knowledge of disease generally, and of this disease in particular. With a view to prove how necessary it is to bring to our assistance a thorough acquaintance with pelvic affections in cases of this description, I will mention a few of the most common errors, and show how they may be avoided.

The vaginal discharge which women who are laboring under chronic inflammation of the uterine neck often present, is, all but universally, supposed to be the result of constitutional weakness. This error is, perhaps, the most inveterate and the most general of all, and has been sanctioned during centuries by the writings of innumerable men of eminence. At the same time, it is founded on the grossest disregard of every-day experience, and of the laws of pathology. A large proportion of the female inhabitants of towns present for a short time before and after menstruation, or after excitement or fatigue, a more or less abundant white vaginal discharge; and yet their health remains perfectly good. This circumstance alone satisfactorily proves that a mere mucous vaginal secretion does not, of itself, produce the constitutional debility which is often observed when there is a leucorrhœal discharge, and which it is supposed to occasion. The study of the laws which regulate the functions and diseases of mucous membranes generally leads us to the same result. A copious mucous hypersecretion, apart from inflammation, may exist for years from the nares, lungs, or intestinal canal, without the supervention of general debility and emaciation. Both experience and pathological analogy thus prove, that if great constitutional debility exists along with a vaginal discharge, and if there is no other local disease or cachexia to account for it, the uterine system must be the seat of some more serious lesion than a mere mucous hypersecretion.

This remark applies still more forcibly when the vaginal discharge is not merely mucous, but purulent. The presence of pus is conclusive as to the existence of some internal inflammation. And yet there are many practitioners who still believe that even a discharge of this kind is merely the result of weakness. The absurdity of such an opinion cannot be better demonstrated than by applying it to other organs. What medical man in his senses would think of attributing the daily expectoration of a considerable quantity of pus from the lungs, or its discharge from the intestinal canal, to mere debility?

The sensations of weight, dragging, and bearing-down, which char-

acterize partial prolapsus of the womb from inflammatory hypertrophy of the uterine neck, are generally supposed to be the result of the womb falling, from weakness or laxity of the uterine ligaments. This is a most disastrous error; for not only does the practitioner neglect to adopt proper means to ascertain the real nature of the case, and omit to resort to correct means of treatment—impressed as he is with an erroneous notion of the state of his patient—but the pessaries and physical means of support that he adopts nearly always aggravate the disease. I am continually meeting with cases in which great mischief has evidently been done by the use of physical means of sustentation in cases in which inflammation is the real cause of the morbid symptoms.

The pains in the lower part of the back, and in the hips and thighs, are also generally mistaken for indications of constitutional weakness. Indeed, as these pains nearly always accompany the vaginal discharge in the cases in which extreme debility occurs as the result of uterine inflammation and ulceration, they have become popularly connected with leucorrhœa. Thence it is that back-ache and whites are very erroneously considered, not only by the public, but even by the profession, as symptomatic of constitutional debility existing as a primary affection.

The pain in the ovarian regions, and especially that on the left side, the most characteristic of all the local symptoms that inflammation and ulceration of the cervix occasion, is often erroneously supposed, by the medical attendant, to be the result of inflammation or other disease of the ovary. This error is one which all the older writers fall into: but even of late there has been a decided tendency to reproduce and exaggerate it, as we shall see when speaking of subacute ovaritis. When the pain occurs on the right side, it is frequently referred, without any real foundation, to the liver, and supposed to indicate disease of that organ.

If the cervix or body of the womb is enlarged and retroverted, so as to press on the rectum and to offer an obstruction to the passage of the feces through the bowels, the obstacle is sometimes mistaken for stricture of the rectum. This is more especially the case when the lower bowel really is simultaneously, the seat of inflammation. I have repeatedly known females martyred for a lengthened period by attempts to dilate a supposed stricture of the rectum, when nothing of the kind in reality existed.

When the irritation about the bladder is very great, the attention of the practitioner may be directed almost exclusively to it, and the uterine disease may thus be overlooked. This is a mistake which is not unfrequently committed. I have met with patients thus suffering who had been examined for stone over and over again, or treated for years for idiopathic cystitis.

Such are the principal errors of diagnosis to which the local symptoms give rise, when they are sufficiently marked to attract the attention of the patient or of her medical attendant. If this is not the case,

if the local symptoms are slight and indistinct, and the general symptoms only are well-marked, the real nature of the disease is still less likely to be discovered.

It is the more difficult to avoid being led astray by the general or functional symptoms which generally exist in this disease, as they respectively represent an actually disordered state of the stomach, liver, heart, brain, &c. We are, therefore, inevitably deceived if we confine our attention to the dyspeptic, bilious, cardiac, or cephalic symptoms which the patient presents, and do not carry our investigations farther, and endeavor to ascertain whether the morbid conditions observed may not be merely symptomatic of other disease, of disease of the uterine organs.

An accurate analysis, however, of the uterine history of the patient, and of the functional and other symptoms which she presents, of their origin and progress, and of the results of previous treatment, will nearly always enable the practitioner to form a tolerably correct surmise as to their idiopathic or symptomatic nature.

It is owing to the general non-recognition of the facts contained in the above description of inflammatory disease of the uterine neck, that the opinion has hitherto prevailed in the profession, that extreme general debility frequently supervenes constitutionally in the female, without any absolute disease; and that this opinion has been generally adopted by pathologists, although in direct contradiction to the laws of pathology. The general health and nutrition of the system do not give way and sink in the female, *any more than in the male*, without some tangible reason. For all, or nearly all, the functions of the economy to become depraved, and for the patient to sink into a state of emaciation and debility, there must be some cachexia present, or some serious local disease, or she must be exposed to very bad hygienic conditions, or to some serious mental cause of distress.

*Pathological Anatomy.*—Inflammation of the cervix uteri, with or without ulceration, like chronic metritis, not being, *per se*, a fatal disease, we only have an opportunity of examining after death the changes produced when persons suffering under it die from some accidental malady. As, however, it is not unfrequently met with in post-mortem examinations of young women who die from other diseases, I have often been able to examine the state of the inflamed and ulcerated cervix after death, and have found those anatomical modifications which the ocular examination of the parts during life would lead us to anticipate. Mere congestion and inflammation appear to leave but little trace of their existence in the cervical mucous membrane. It is merely slightly thickened, rather more rosy than natural, and slightly covered with mucus. The changes that take place in the capillary circulation after death evidently remove or modify, in part, the alterations produced by inflammation in the mucous membrane perceptible to the eye during life. When destructive inflammation has commenced, and the epithelium has been destroyed, so as to give rise to excoriation, the first stage of ulceration, the patho-



logical evidence of disease, becomes much clearer. An excoriation, or superficial ulceration, however, is often after death by no means distinct to the eye, and may only be recognizable by a minute inspection; a fact which accounts for its seldom being discovered unless sought for. The epithelium is found to be destroyed in a greater or less extent, and the villi of the mucous surface float denuded. When the destructive inflammatory action has progressed a stage further, the ulceration becomes more clearly defined, and the mucous membrane is seen to be either partially corroded, or here and there entirely destroyed. In the latter case the fibrous structure of the subjacent parts may become distinctly visible, the mucous membrane being dissected, as it were, by the process of ulceration. The ulcerated surface itself is not excavated in purely inflammatory, non-syphilitic disease, but on a level, or nearly so, with the surrounding tissues; the ulceration being covered with granulations, and the margin being perfectly smooth and regular, and presenting no jagged, hardened indentations. The cervix itself, when chronically enlarged, presents all the characteristics of hypertrophy, its tissue being more dense and more resistant than in the normal state.

The existence of these pathological changes, which I described in the first edition of this work, were at first denied by some writers principally because they were not mentioned in the pathological records of one of our large London hospitals. However, as already stated, I have lived to see one of these writers publish microscopical sketches of the very ulcerative conditions, the existence of which he previously denied, and also to see my statements corroborated by evidence which they have themselves drawn from other London hospitals. The fact is that, in whatever public institution young women who menstruate, marry, and have children, are received, to sicken and die, from whatever cause, the death-room will show the existence in these women of a considerable amount of non-recognized inflammatory and ulcerative disease of the cervix uteri, and of uterine inflammation generally. The interesting summary of cases from Calcutta contained in the Appendix, illustrates this assertion, as also the importance of the fact. As I have before stated, it is impossible not to admit that this unrecognized disease must have modified their constitutional state, and have had an influence in producing death.

## CHAPTER VI.

INFLAMMATION AND ULCERATION OF THE NECK OF THE  
UTERUS IN THE VIRGIN FEMALE.

ITS CONNECTION WITH LEUCORRHEA, DYSMENORRHEA, AMENORRHEA,  
IRREGULAR MENSTRUATION, PARTIAL PROLAPSUS, ETC.

As I have elsewhere stated, the neck of the uterus is susceptible of being attacked by inflammation, and its sequelæ—ulceration and induration—at every phasis of the female existence from the first dawn of menstruation to advanced life—the disease presenting important peculiarities, according to the physiological condition of the uterine organs.

The general description of inflammation of the neck of the uterus which I have just given may be said to apply more especially to married females who have had children. We will now proceed to study it in the other phases of female existence, commencing with the non-married or virgin condition.

The existence of inflammatory disease of the uterine neck in the virgin, as a malady of not unfrequent occurrence, was totally unsuspected by all who had written on uterine diseases, even by the most enlightened continental practitioners, when I published the first edition of this work; and I myself spoke of it with doubt and hesitation. The experience of the following years, however, showed me that such doubts were an error, and led to the insertion of the present chapter in the second edition.

Not only *may* inflammation and ulceration of the uterine neck exist in the virgin female, but it *does* exist, and not *very* unfrequently. When I first wrote I had met with no mention of inflammation and ulceration of the neck of the uterus in the virgin in any of the authors who preceded me, I had never heard a remark on the subject escape from the eminent Parisian pathologists whose pupil and assistant I was for many years, and had not observed this form of the disease myself in hospital or private practice—or, at least, had not recognized it. I, therefore, concluded that when ulceration did exist it healed spontaneously—as is often the case in the mouth—owing to the patient not being exposed to the causes of irritation which obtain in the married condition. Reason told me that the cervix uteri must occasionally become inflamed and ulcerated; but for want of the experience which I afterwards acquired I was obliged to surmise that the cure was always, or nearly always, spontaneous. The very guarded manner in which I wrote, however, shows how unwillingly

I came to this conclusion, and that I foresaw, as it were, the results which subsequent research developed.

For many years I have very carefully analyzed the state of all the young unmarried females presenting uterine symptoms for whom I have been consulted, with a view to elucidate this very important question, and have thus ascertained, in the most positive manner, that inflammation and ulceration of the cervix uteri in the virgin are not, in reality, an uncommon disease, and that to it may be referred most of the severe forms of dysmenorrhœa which resist the ordinary modes of treatment, and most of the cases of inveterate leucorrhœa in the virgin, which are connected with great general debility and prostration.

Not only have I frequently met with inflammatory ulceration of the cervix uteri in virgin females above twenty, who have menstruated for some years, but I have in several instances discovered the disease existing in a most decided form in young females only sixteen and seventeen years of age, in whom menstruation was not even yet fully established. Two cases of this description will be given at the end of this chapter. They show, most satisfactorily, that the congestion which precedes and accompanies the establishment of the function of menstruation in the female economy may become morbid, and be followed by the development of ulcerative inflammation. As yet I have had no reason to suppose that the neck of the uterus is ever ulcerated previous to the age at which menstruation appears. Considering the dormant condition of the uterus when it has not been roused into functional activity, I should think it is scarcely likely then to take on severe inflammatory action.

This discovery cannot but be considered of extreme importance, inasmuch as it brings at once within the scope of successful treatment a class of most distressing and intractable cases. At the same time it must also be admitted that it very much increases the delicacy and difficulty of their management. The manual and instrumental examinations imperatively necessitated by the presence of extensive physical lesions, intractable to non-surgical treatment, in the deep-seated uterine organs, are at all times repugnant to female delicacy. Indeed, their proposal under any circumstances can only be warranted by the serious nature of the case, but the scruples of the medical practitioner must be increased tenfold when the sufferer is a virgin female. If, however, he is satisfied that his patient is laboring under a disease which is destroying the very sources of health, and the disastrous effects of which can only be arrested by physical examination, it would be a dereliction of duty, as well as a false and culpable delicacy, not to overcome all scruples and obstacles, whatever may be their nature. No such feeling prevents surgical relief being offered to young females suffering under the diseases of other regions of the economy—the anus, the rectum, or even the external genital organs, for example—where treatment is nearly equally repugnant, nor should it in this instance.



It is, however, of the utmost importance that no physical examination should be even thought of in an unmarried female, unless there be next to a certainty that severe inflammatory lesions of the uterine neck actually exist, irremediable by ordinary treatment. Fortunately, a practitioner, familiarized with the disease, may generally acquire this conviction by the oral examination of the patient, by a careful appreciation of all the elements of the case, and by the non-success of general treatment.

*Causes.*—It is principally, but by no means always, in plethoric young women, who present the sanguineous temperament, that inflammation and ulceration of the cervix are met with; and as a necessary result, the disease is generally of a rather acutely inflammatory character. But a predisposing cause of still greater importance is the natural susceptibility of the uterus which I have repeatedly mentioned as characterizing a large proportion of those who are attacked with uterine inflammations. Unmarried females of a more advanced age—between thirty and forty or fifty, for instance—are by no means exempt from the development of inflammatory uterine disease. It has long been known that they are often attacked with polypi and fibrous tumors, and I have found them equally liable to inflammatory affections of an aggravated form. Indeed, I have frequently been able, apparently, to trace the origin of polypi and fibrous growths to the existence of neglected inflammation. I have repeatedly known a fall from horseback to be followed by inflammation in virgins, as in married women.

*Symptoms.*—The local symptoms of cervical inflammation are absolutely the same in the virgin as in the married female. They are: pains in the lumbo-sacral, ovarian, and hypogastric regions, as also in the hips and thighs; a white or transparent mucous, a yellow purulent, or a muco-sanguinolent discharge; and pelvic weight and bearing down. As in married females, a glairy or a purulent discharge indicates inflammation, the latter, in all probability, ulceration. A *permanent* white vaginal discharge is also a very suspicious circumstance, as it proves the existence, not of general or local weakness, as is usually supposed, but of permanent uterine congestion—a condition which is, generally speaking, connected with inflammation of the cervix, and which, even did it exist alone, would probably soon be followed by inflammatory disease. On the other hand, the absence of a yellow or white discharge is no proof whatever that inflammation, with or without ulceration, may not exist. The morbid secretion may take place, but not reach the exterior.

As in married females, the local pains generally persist *throughout the entire interval* of menstruation, although they are usually much more severe during its existence. Pelvic weight and bearing-down are not often experienced to any great extent by the young virgin female, owing to there being less tendency to hypertrophy, and to the vagina being very contractile, and giving so much support to the uterus as generally to prevent prolapsus occurring. When partial

prolapsus does take place, it is partly because the vagina becomes relaxed, and loses its tone, and partly from the increased weight of the enlarged cervix. Owing to this natural tonicity and contractility of the vagina in young females, the presence of the feelings indicating partial uterine prolapsus is a very strong presumption that the patient has long been suffering from inflammatory disease of the uterine neck. In such instances the pessaries and other local means of support, which are frequently resorted to in the blindest manner, are necessarily attended with disastrous results, generally aggravating the inflammation to an extreme extent. The use of pessaries with young females thus suffering is certainly most irrational. A case which I shall narrate will painfully illustrate their injurious effects.

In addition to the local symptoms of ulcerative inflammation of the cervix uteri, there are the general symptoms to be considered, and they will often throw great light on the real nature of the disease. Of all the general symptoms which may be present, extreme debility is the most significant. As with married females, an occasional white leucorrhœal discharge—that which I have described as often preceding and following the menses, or any occasional uterine congestion—certainly does not react to any very great extent on the health, although it is universally considered to do so by writers on female diseases. Such a discharge may exist in young, chlorotic, scrofulous, and phthisical females, merely as the indication of slight uterine congestion, the result of disordered menstruation, itself caused by the general cachectic condition of the individual. In these cases the leucorrhœa is only a symptom of disturbed menstruation, brought on by the cachectic, anemic state of the patient; it is not the cause of the anemia. In the absence of some tangible cachexia, I may safely say, that I scarcely ever meet, even in virgins, with extreme general debility and weakness co-existing with chronic leucorrhœa, without finding, on a careful scrutiny of the case, that there is inflammation, and very often ulceration of the uterine neck.

A disordered condition of the digestive system, great mental depression, loss of rest, hysterical symptoms, nervous agitation, spinal irritation, &c., also characterize the disease, and are evidences of its reaction on the general health. I have seen severe convulsive hysteria followed by hysterical paralysis in the virgin, the evident result of inflammatory disease of the neck of the uterus. When convulsive hysteria recognizes this cause, the attacks occur principally at monthly periods, at the time the uterine exacerbations take place.

The morbid reaction of chronic uterine inflammation on the spinal cord in young virgin females is occasionally very remarkable. The remarks made (p. 114) on spinal irritation, and on paraplegia originating in this cause, refer more especially to young unmarried females. It is in them more especially that I have observed these forms of secondary disease. In many cases that I have attended, the removal of uterine disease has been followed by the gradual but complete recovery of the power of motion, and the subsidence of all morbid

symptoms in females who previously could scarcely cross a room, and had been unavailingly treated for years by the most energetic surgical means.

In many of the instances which I have seen of chronic inflammation in the virgin female, the most prominent symptom has been dysmenorrhœa in a very severe form. Indeed, as I have stated above, I am convinced that most of the cases of extreme and obstinate dysmenorrhœa and disordered menstruation, which are at last considered hopeless, and are merely palliated by narcotics, will be found, on careful scrutiny, to be cases of ulcerative inflammation of the uterine neck, sometimes accompanied by chronic inflammation of the body of the uterus, either general or localized.

When the cervix is inflamed and ulcerated, the menses, whether they have previously been easy or difficult, generally become painful, sometimes agonizingly so, all the local pains being much exaggerated. It is not, however, the mere existence of pain during menstruation, as we have seen elsewhere, that indicates the presence of inflammatory disease, some women always suffering pain, even in the absence of uterine inflammation, but the presence of pain when it did not previously exist, and its evident increase when it did. Amenorrhœa or menorrhagia is also frequently observed. The breasts are often sympathetically affected; they become large, swollen, tender, and painful, and the areola is developed as in early pregnancy.

All the symptoms, both local and general, of inflammatory disease are occasionally met with, and then the diagnosis is easy. Sometimes, however, as with married females, there are only one or two symptoms present, in which case the diagnosis is very difficult. Thus I have now under my care an unmarried lady, aged twenty-seven, with whom the only symptoms were excruciating pain for the first day of menstruation, and a slight falling-off in the general health. I was led to connect this state with local disease, because the dysmenorrhœa had only existed for two years, had resisted all general treatment, and was increasing. On examination, I found extensive ulcerative disease of the cervix. In this case, the moment the necessary local treatment was commenced, all the ordinary local pains, previously absent, appeared—the backache, bearing-down, exhaustion, &c. I have consequently had great difficulty in persuading the patient and her friends that these symptoms were not solely caused by the treatment. I not unfrequently meet with cases in which this difficulty has to be encountered.

It will thus be seen, that by an accurate analysis of the local, general, and functional symptoms presented by the patient, very fair presumptive evidence of the existence or non-existence of chronic inflammation of the cervix uteri may be obtained, in many instances, without resorting to physical examination. Whether the existence of the disease, however, be considered certain or doubtful, an attempt may be made to cure the patient by simple palliative remedies, injections, rest, &c., if the circumstances of the case admit of delay; but if they



do not, or if these means have been tried, and have failed, a digital examination of the uterine organs should be resorted to without hesitation. The welfare of the patient is the paramount consideration, and if it becomes absolutely necessary to acquire more information respecting the state of the uterus, all other considerations must give way.

*Physical Examination.*—A satisfactory digital examination of the uterus may be nearly always made in a virgin, without injury to the hymen, especially when the vagina and external genital organs have been relaxed by long-continued congestion and inflammation. The hymen is nearly always sufficiently dilatable to admit the index, introduced slowly, and with proper care. Not unfrequently, however, the dilatation can only be accomplished satisfactorily, and without laceration, by repeating it two or three times, at three or four days' interval, using in the meanwhile hip-baths and emollient, or slightly astringent injections. The result thus obtained is worth the trouble and delay, for if the hymen has thus been merely dilated gently, not lacerated, it partially retracts and closes again when the surgical interference ceases.

Generally speaking, once the hymen has been dilated, the os and cervix are reached with ease, the inflamed cervix seldom being retroverted, as it generally is in married females; and when once the finger has reached the os, in most cases, all doubts are solved. If the cervix is free from disease, it is soft and the os is closed; if inflamed and ulcerated, it is enlarged and swollen, and the os more or less open and velvety. This open, soft state of the os and cervix may also exist from mere inflammation of the cavity of the uterine neck. If the uterus, however, has congenitally a diagonal position from right to left, there may be some difficulty in reaching the cervix.

When the existence of ulcerative disease of the uterine neck has been thus recognized in a virgin, what course must we follow? As it may react so disastrously on the female economy as absolutely to endanger, indirectly, the life of the patient, not to speak of its making her a burden to herself, and to all around her; as, likewise, when the disease is severe and confirmed, all non-instrumental means of treatment are totally inefficacious, there can be no room for hesitation. The speculum must be used, if possible without dividing the hymen; but if its introduction is otherwise impossible, the hymen must be carefully divided.

In most cases, as I have before stated, the hymen is naturally sufficiently lax, or has been sufficiently relaxed by disease to admit of gentle dilatation; I have therefore had a very narrow, small, bivalve speculum made, with which I am generally able, by degrees, and with a little time and patience, to examine the patient without any preliminary division. The use of injections and hip-baths, by diminishing the vulvar and vaginal inflammation, also greatly facilitate the examination. This is so much the case, that often a ten days' previous treatment of this kind will render an examination painless and easy,

which at first would be painful, difficult, and cruel. When, however, the membrane is fleshy, or inextensible, which it generally is in females rather advanced in life, it may not yield, and it may become necessary to divide it. This may even be necessary, in order to introduce the finger. In a case in which I was consulted lately, the vaginal orifice was not larger than a crow-quill: the patient, a young person, aged nineteen, was rather stout and muscular. If it thus becomes indispensable to divide the hymen, the incisions may be made on each side, but that which gives most room is one in the median line, inferiorly, in continuation of the raphé of the perineum, owing to the extensible nature of the soft tissues at the lower commissure of the vulva. This is also the region where the hymen is naturally the most fleshy and the thickest. If possible, it is as well to allow the divided surfaces of the hymen to heal before any attempt is made to use the speculum, in order to avoid giving useless pain to the patient. The healing of the incisions may be promoted by touching them once or twice with the nitrate of silver: unless this precaution be adopted, the cicatrization is sometimes tedious. I very seldom, however, have occasion to divide the hymen, as I find that with patience and gentleness, and the assistance of local antiphlogistic treatment, it may, in most instances, be sufficiently dilated to admit the small speculum which I use.

When the nature of the disease has been once recognized, and its extent instrumentally ascertained, the case falls into the general category. The only important peculiarity which I have remarked in the progress of this malady in virgins is, as I have stated, that it most frequently presents itself in young females under the acute or inflammatory form. The cervix is enlarged; but it is the swelling of congestion and inflammation, not the chronic nutritive hypertrophy so often observed in married females. The ulcerated surface, which is seldom extensive, is often irritable and vascular. These peculiarities are not unfavorable, as such cases are precisely those which yield the easiest and the readiest to treatment. I occasionally meet, however, with virgin females, rather advanced in life, in whom the cervix is chronically hypertrophied, and in whom the disease generally proves very intractable. In several, above forty years of age, thus suffering, whom I have treated, I have been able to trace back the malady for very many years. Under such circumstances, as we have seen, the uterus is apt to take up other morbid actions. In young females the excoriated or ulcerated surface is often so small that it is difficult to believe that so slight a lesion could occasion so much local and constitutional disturbance; and yet its removal by treatment proves that it is the cause of all the mischief, inasmuch as the patient loses all morbid symptoms and recovers her health, after having in vain sought relief from all other modes of treatment, hygienic, medicinal, and constitutional. Indeed it is more especially in young virgin females that we find exemplified the important fact, that in inflammatory and ulcerative affections of the cervix uteri there is no traceable connection between the *extent* of the local disease and the *amount* of the local and consti-

tutional suffering. The most trifling lesion may occasion extreme disturbance, whilst in other cases extensive disease will scarcely give any evidence of its presence.

I am aware that the foregoing details will be read with considerable surprise even by those practitioners who have paid the most attention to uterine diseases. They are, however, the expression of facts, and, as such, must necessarily be accepted eventually by the profession. When this is the case, a great amount of suffering, now unrecognized and unremedied, will be alleviated. I have by me the notes of very many cases of severe ulcerative inflammation of the uterine neck in virgins, which I have observed and treated, some of which have occurred in private practice, and others in public practice. In most of these cases the patients had been ill for years, the symptoms which they had presented having resisted every attempt at treatment. Many belonging to the wealthier classes of society had been under the hands of very able and experienced practitioners, who had brought to bear on their cases all the information of which the profession is at present in possession. Nevertheless their sufferings had gone on increasing, their general health had become more and more debilitated, and it is certain that some must have perished, victims to the disease, if the real cause of their illness had not been discovered and remedied.

Experience having thus taught me that severe inflammatory disease of the cervix uteri is occasionally met with in unmarried females; that it is then the cause of great functional uterine disorder and of extreme general debility; and that by physical examination only can the disease be fully recognized and treated; I have no hesitation in stating that such an examination, *in these exceptional cases*, becomes imperative. As, however, an investigation of this nature is a serious matter, and must be equally repugnant to the feelings of the medical attendant and of his patient, it should only be resorted to as an extreme measure—as a last resource. No practitioner who has not acquired an accurate knowledge of these forms of uterine disease in married females ought, in my opinion, to resort to it on his own responsibility, as he may by so doing unnecessarily expose his patient and her friends to great mental distress, through his ignorance of the real meaning of the symptoms which she presents. It is also only by educating the finger by the eye that it acquires that delicacy of tact which enables the medical attendant to discover ulceration by digital examination. Indeed I cannot too strongly insist on the practical importance of the fact, hitherto overlooked in this country, that the information afforded by digital examination is alike obscure and useless, until the finger has been educated, and its errors corrected, by the eye.

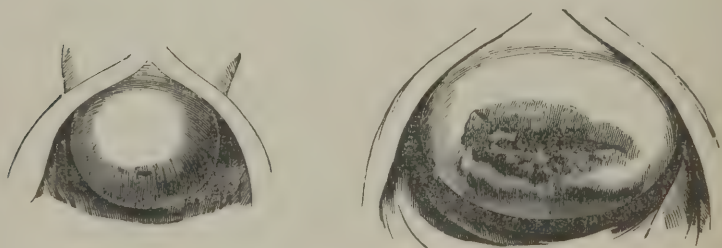
Notwithstanding all that I have said above, I must not be considered to assert that this disease is a very common one in the virgin female. On the contrary, I believe it to be exceptional; but I also believe that all practitioners engaged in the consultation-practice of female diseases will recognize it frequently, as I do, if they bear in mind the facts which I have pointed out. I may say, without exaggeration, that since



I called the attention of the profession to the existence of the disease in virgins, not a month has passed without my being consulted in cases of severe inflammatory disease of this character in virgins, which had resisted years of general treatment. I have thus been instrumental in restoring to *perfect health* many young females who, when I first saw them, were mere wrecks, and had lost all hope of recovery. When such a disease is once known to exist, it would be an opprobrium to medical science to allow it to remain unchecked from motives of false delicacy.

I shall conclude this account of the symptoms presented by inflammation of the uterine neck in virgins, by narrating several interesting cases which may be considered typical of the disease. I would first, however, draw attention to the following figures. No. 1 represents the cervix uteri of the menstruated virgin in the healthy state; No. 2 represents an ulcerated and hypertrophied virgin cervix in my possession. This interesting morbid preparation I owe to the kindness of Mr. Anderson, my colleague at the Western Dispensary. The female from whom it was taken was a young lady, attended in private practice by that gentleman, who died from an acute chest-affection, at the age of nineteen. She was previously in apparently robust health. Mr. Anderson was not able to tell me whether she had presented any uterine symptoms previous to her fatal illness, although they no doubt had existed.

Fig. 6.



1. The Virgin Cervix.

2. The Virgin Cervix, inflamed and ulcerated.

On making a post-mortem examination, he found the hymen small and intact. The cervix uteri, however, was much hypertrophied and extensively ulcerated, as will be seen in the woodcut. I may mention that the drawing, which is mathematically correct, was taken from the diseased cervix after it had been macerating for many months in alcohol, and that consequently the ulcerated neck must have been even larger in the fresh state. This engraving is a very accurate representation of the condition of the uterine neck as to hypertrophy and ulceration, in many of the cases which I have seen in the virgin; in some, the ulceration is more, but in most it is much less extensive. It will be easily understood that the finger of an experienced practi-

tioner, passing over such a cervix, could not fail to recognize the gaping, open state of the os uteri, so different from that depicted in No. 1.

### CASE I.

*Extensive Inflammatory Ulceration of the Uterine Neck in a Virgin Female, aged twenty-four, accompanied by partial Prolapsus of the Uterus, and much aggravated by the Use of a Pessary.*

In April, 1846, I was consulted by a lady from the North of England, respecting her daughter, aged twenty-four, who had been suffering for some time from falling of the womb. On questioning the mother and the daughter, I elicited the following details: Menstruated early in life; she had always been so regularly every four weeks. The secretion usually lasted four or five days, and was generally accompanied by more or less pain during the first two. She had often whites a day or two before and after menstruation, but not at other times; health generally good. At twenty-two the whites became more abundant, and she began to suffer from increased pain during menstruation. She also experienced from that time considerable pain in the lower part of the back. Her general health subsequently flagged; she became low, nervous, dyspeptic, and thin. About nine months previously, she began to feel great dragging and bearing-down in the pelvic region. This sensation was more especially felt when standing or walking. The vaginal discharge had then been yellow for some time, and the back and other pains were much increased; the general health had also become worse. Under these circumstances, her mother, being alarmed, consulted an experienced accoucheur. The young lady was examined digitally, and told that the womb had fallen, owing to laxity of its ligaments; that there was no other disease, and that she would soon feel quite well, if the uterus were properly supported. In order to effect this, a boxwood ring pessary was introduced into the vagina, although with great difficulty, and pushed up against the cervix. She was promised that she would soon be able to walk out—which for some months she had been unable to do—if she persevered in using the pessary. The wooden supporter thus introduced was regularly pushed up once or twice a week, for a period of three months. The introduction of the pessary was immediately followed by a very great increase in the local pains, as also by an increase in the vaginal discharge, which from that time was frequently tinged with blood. For some weeks previous to my seeing her, the pains in the back and lower abdominal and ovarian region had often been agonizing, especially during the monthly periods. The hypogastric region was painful to the touch. She could scarcely walk across the room, could not sit upright, and had an abundant yellow vaginal discharge, generally mixed with blood. She was sallow and emaciated; became hot and feverish every afternoon, and was very weak and hysterical; the appetite was bad, and the bowels constipated; the nights restless, and the urine loaded with lithates. Not-

withstanding these symptoms, and although the pain experienced when the pessary was pushed up or even touched, was indescribable, her medical attendant kept repeating to her that she must be better, and would soon get well. The impression, however, on the mind of her friends was, that he had given her up as incurable—an impression confirmed by his having, of his own accord, all but ceased his attendance.

On passing the index into the vagina, I found both the external and internal parts very lax and moist. The pessary was low down, but wedged, as it were, in the soft parts, so that I had to use some force to extricate it. On then examining digitally, I found the cervix low, very voluminous, and presenting a certain resistance to pressure, without being indurated; the hypertrophied lips were very open, so much so as to admit the first phalange, and presented a soft mossy surface, both internally and externally. The uterus was rather enlarged, especially posteriorly, and very sensitive to pressure. Posteriorly, where the cervix passed into the body of the organ, there was a groove, or sulcus, in which the posterior circumference of the ring pessary had been lodged, and which had been formed in the inflamed uterine tissue. Here the pain on pressure was very great. The uterus was perfectly movable. On introducing a bivalve speculum, which I was able to do from the extreme laxity of the parts, and their previous distension, a really frightful amount of inflammatory and ulcerative disease became apparent. The vulva and vagina were painful to the touch, vividly congested, and covered with sanies. The cervix, low and voluminous, was of a livid red, covered with sanies, and ulcerated both around the open os, and as far within its cavity as the eye could reach, on the lips being separated with the speculum. The ulcerated surfaces were most unhealthy in their appearance, and bled on the slightest touch.

It at once became evident to me, that the patient had been primitively affected with inflammation of the cervix; that the prolapsus of the uterus, which had alone attracted the attention of her medical attendant, was merely the physical result of the inflammatory enlargement of the organ; and that the treatment adopted had aggravated twenty-fold the gravity of the disease. I began the treatment by applying the nitrate of silver freely to the ulceration, and by the application of eight leeches to the cervix uteri. She was confined to her bed, and cold linseed vaginal injections with tepid hip-baths ordered night and morning. The bowels were kept open by cold water injections and mild laxatives, and a very light mild diet, without stimulants of any description, was prescribed. Under the influence of these measures, the acute inflammatory symptoms presented by the uterine organs rapidly gave way, and in less than ten days there was already a considerable change for the better. The extreme sensibility of the vagina, cervix, and posterior uterine region, had much diminished, and she suffered much less in the lower part of the back, and in the abdominal and ovarian regions. The afternoon



febrile attacks had given way, and she had become less restless and feverish at night. The ulceration, which was still very unhealthy, was then cauterized with the acid nitrate of mercury, and astringent (alum) injections substituted for the emollient ones previously used. A saline mixture only was given internally.

From this time forward, under the above treatment, and the periodical cauterization of the ulceration, either with the nitrate of silver or the acid nitrate of mercury, the patient continued to improve, although slowly. It was nearly two months before the ulcerated surfaces of the cervix and its cavity assumed a thoroughly healthy appearance, and ceased to secrete more or less sanious discharge. Before this period, however, the process of cicatrization had commenced, and it continued to extend itself, the cervix, and the body of the uterus at the same time, gradually diminishing in volume. As this decrease in size progressed, the cervix rose in the vagina, and the sensation of falling became less distressing. The general health also rapidly improved, the rest became good, the bowels regular, the appetite returned, the urine ceased to be loaded with lithates, and the general nutrition began to rally.

It was not, however, until the end of August—that is, nearly five months from the commencement of the treatment—that I could pronounce the patient cured. The ulceration was then completely healed, both inside the os and out. The lips of the os, formerly so open, were naturally closed; and the cervix, not more than a third of the size it first presented, had risen into its natural position in the pelvis. It was at least two inches and a half higher than when I first saw her. The mucous surfaces were perfectly healthy, and there was no morbid secretion of any kind. She could walk a mile or two without fatigue, and sit erect. Menstruation was easier than it had been for years, slight pain only being experienced the first day. The appetite was good, bowels regular, urine clear, complexion healthy, and she had gained flesh. I sent her to the seaside for a month or two. On her return, the health was still further improved, and has continued very good ever since. I saw this young lady some time after—a full year from the cessation of the treatment—and ascertained that she had had no return whatever of the prolapsus, or of any other uterine symptom. She was in perfect general health.

*Remarks.*—This case is peculiarly instructive, not only as an illustration of inflammatory ulceration of the uterine neck in the virgin female, but also as illustrative of my views respecting the real nature and cause of partial prolapsus uteri in a large proportion of cases, and of the very erroneous notions entertained on this subject by practitioners of deserved eminence in the profession. There can be no doubt whatever that this young lady was attacked with inflammation of the uterine neck at the age of two-and-twenty, as evinced by the dysmenorrhœa, the permanence of the whites, the permanent back-pain, and the general symptoms. The partial falling of the uterus

which subsequently took place was the physical result of the increased weight of the inflamed and hypertrophied cervix, and not of laxity of the ligaments, as erroneously supposed. It is not, indeed, without difficulty that I can understand how the numerous and evident symptoms of uterine inflammation which the patient presented could possibly have been so entirely overlooked. To me it appears marvellous that the exacerbation of all the symptoms, both local and general, which followed the introduction of the pessary, did not reveal the real nature of the case. The preconceived idea of its nature was, however, too strong to be removed, and the poor girl was thus martyred by the very means resorted to to relieve her. When the inflammatory nature of the disease was discovered, and rational antiphlogistic measures were adopted, the pains, discharges, prolapsus, and other symptoms gradually diminished, and she was eventually restored to perfect health. The connection between the local uterine lesions and the general and local symptoms, as cause and effect, was admirably illustrated by the total disappearance of the latter when the inflammatory affection of the uterus was cured. The dysmenorrhœa, also, which had previously been a prominent symptom, entirely disappeared, along with the uterine disease.

## CASE II.

*Inflammation and Ulceration of the Uterine Neck in a Virgin Female, aged twenty-three, the Cause of very severe Dysmenorrhœa, and of great general Debility; great Irritability of the Bladder and Rectum; Treatment; Dilatation of the Cavity of the Cervix.*

Whilst in the south of England, in September, 1846, I was consulted respecting a young lady, aged twenty-three, who had been long suffering from dysmenorrhœa, for which she had been treated unsuccessfully by various experienced medical practitioners. I found the young lady confined to her bed, and ascertained the following details: Of sound constitution, and sanguineous temperament, she enjoyed good health as a girl. Menstruated at fourteen; she continued to be so regularly from that time, every four weeks, the secretion lasting four or five days. From the first, menstruation was rather painful, the pain continuing sometimes nearly the entire period; the flow of blood was rather abundant. Sometimes she had a slight white vaginal discharge for a few days after the period, but not sufficient to attract much attention. In other respects her health continued good. At the age of twenty menstruation became much more painful; the pains were more severe and more continuous, and incapacitated her from any exertion whilst they lasted. Occasionally she kept her room; at other times, as it were in despair and to escape from pain, she would take long walks, but such exertion was invariably attended with an increase in the local symptoms. The white leucorrhœal discharge likewise became more continued and copious; she, however, generally rallied during the interval of menstruation, although not always. About a year previous,

she had to bear very great fatigue, during several months, whilst attending the sick bed of a near relative, whom she eventually lost. Under the combined influence of fatigue and grief, the above mentioned symptoms became much more marked. The pains which she experienced during the monthly period, and for some days before and afterwards, increased to such an extent as generally to confine her to bed. They were no longer limited to the uterus, but radiated all over the lower part of the abdomen, and extended to the back, persisting in the latter, and in the ovarian regions, *during* the interval of the menstrual period. The leucorrhœal discharge was much more abundant, and often presented a muco-purulent appearance; the menstrual periods became irregular, more approximated, and the flow of blood more considerable, and she suffered from nausea all the time they lasted. At the same time, the general health, which had long been indifferent, rapidly gave way; she lost all desire for food; the bowels became very constipated; she suffered from continued cephalalgia, alternate chills and flushing, and interrupted rest. This state of things obliged her, in the previous February, to apply for medical relief for the second or third time. After careful digital examination, she was pronounced, as on previous occasions, to be laboring under functional dysmenorrhœa, and was treated in accordance with this view. The only local means used appear to have been, the application of leeches to the abdomen during the monthly exacerbations, rest in bed, and sedative suppositories introduced into the vagina.

Notwithstanding the measures enumerated, all the symptoms continued to increase until I saw her. She had then been all but constantly in bed for some weeks, owing to the great pain she experienced in the back and hypogastrium on the slightest motion. Although complaining of so much pain, the general nutrition did not appear to have suffered to any very great extent, and owing to a flushed state of the countenance, the expression of the physiognomy did not at first appear to be that of a person laboring under serious disease. She told me, however, that her sufferings were but just bearable in the interval of menstruation; and that at that period she experienced such severe and continued agony that she was left nearly powerless, and unable to move. As the menses also appeared every three weeks, lasting seven or eight days, she had scarcely time to rally from one attack before she was seized with another. She suffered continued pain in the back and side, great tenderness of the lower part of the abdomen, constant cephalalgia, had little appetite, was constipated, in the habit of passing a good deal of slimy mucus from the bowel; and had not enjoyed a good night's rest for months. During the menstrual period she suffered much from continued nausea, and constant desire to pass water; but the nausea usually disappeared with the menses.

On examining digitally, which I had some difficulty in doing, owing to the presence of a thick, unyielding hymen, I found the vagina hot, moist, and exceedingly tender. The cervix was enlarged, but soft throughout its entire extent; the os open, and surrounded by a well-



marked, velvety surface. The uterus did not appear much enlarged, but was exceedingly sensitive to the touch. Pain was distinctly felt every time the velvety surface around and inside the os was pressed upon by the finger.

This examination was sufficient to reveal the nature of the case. It was evident that the patient was laboring under confirmed inflammatory ulceration of the cervix, and that this was the principal cause of the painful menstruation and general disturbance. The dysmenorrhœa was merely a symptom of the local inflammatory disease, which as yet had never been efficiently treated. I explained these facts to the relatives, as also my views respecting treatment, and it was at once determined that she should be placed under my care, to be treated as I considered advisable. The sufferings of the patient were so great that she was herself ready to submit to anything to obtain relief. A few weeks later, therefore, she came up to town. In the meantime menstruation had again occurred, and with the same intense suffering as before, notwithstanding the continued use of warm hip-baths, warm poultices to the abdomen, opiated injections to the rectum, coupled with appropriate general treatment.

I again saw her ten days after this menstrual period, on October 5th. She was still in considerable pain; the local symptoms were the same, and there was even greater tenderness in the hypogastric region; the journey had occasioned great fatigue and exhaustion, and an increase in the uterine and sacral pains; every afternoon, for some hours, she became hot and flushed. I determined without delay to apply leeches to the uterine neck. This I did, after deeply incising the hymen in two different directions—opposite the perineum and on the side. I was thus enabled to ascertain, by the speculum, the state of the uterine organs. The vulva and vagina, especially the latter, were of a vivid red hue, and evidently much inflamed; the cervix was swollen, red, inflamed, and ulcerated. I merely obtained, however, a view of the superior third of the cervix, owing to its only partially entering into the small, conical speculum which I used to apply the leeches. The slightest motion of the instrument occasioned so much pain, that I did not attempt to embrace the entire cervix, and contented myself with uncovering the upper part of the ulcerated surface. The leeches bled very freely, and their application was followed by considerable relief. Astringent vaginal injections were then employed in the usual manner, and with the usual precautions; tepid hip-baths night and morning, a cold rectal injection every morning, and a saline aperient; rest in bed, and light diet, without stimulants.

Under the influence of these means, the local pains soon considerably diminished, as also the abdominal tenderness; the afternoon heats ceased to appear, and the rest had become more refreshing than it had been for some months, when, on the 12th, the menses appeared. During the five or six days that they lasted, she suffered very great pain, but rather less than on previous occasions. All local treatment was suspended, with the exception of a warm water vaginal injection, once

in the four-and-twenty hours. Two days after they had ceased, I again applied six leeches to the uterine neck. The incisions of the hymen not being quite healed, the introduction of the speculum was still painful. The vagina was very red and congested, but not so much so as on the former occasion. The cervix was rather less swollen, and entered more fully into the extremity of the speculum, so as to reveal a greater portion of the ulcerated surface around the os. The leeches bled well, but by no means so freely as before. A few days later, the ulceration was cauterized with the nitrate of silver. The former treatment was resumed.

25th.—The incisions of the hymen being healed, I used for the first time a bivalve speculum, with a view to completely uncover the cervix. This I was at last able to do effectually, and found on the inflamed cervix an ulceration around the os, and dipping into its cavity, rather larger than a shilling. The granulations of the ulcer were large, rather spongy, and covered with pus, which had to be wiped off before the diseased surface could be seen. The cervix was voluminous, but soft. The ulceration was touched with the acid nitrate of mercury, and the same local and general treatment as before pursued.

From this time the amelioration became gradually more and more decided. Within a month or five weeks the ulceration began to heal, and the vaginitis was completely subdued, the leucorrhœal discharge having nearly entirely disappeared. At the next monthly period, in order to modify the uterine congestion which appeared to come on at the time of menstruation to a perfectly morbid extent, I applied leeches the day before the menstrual flux was expected. I was unsuccessful, however, in preventing very severe pain from appearing along with it, and persisting, so that I did not again apply them with this view. Laudanum, injected in the bowel, produced little or no effect; it only appeared to increase the headache and nausea. On the second day the flow of blood ceased, and the pain diminished. This was what generally occurred; but the menstrual secretion always began again to flow on the third day, and the pain was then often worse than at first for the two or three days that it lasted. After menstruation the congestion of all the uterine tissues was intense, and it still persisted a week after the menses had entirely ceased, as also the nausea, I again applied six leeches with the best possible effect. Although they bled freely each time they were applied, they did not perceptibly weaken the patient, the only sensation experienced being that of relief from pelvic pain, weight, and heaviness.

At the beginning of February, four months from the commencement of the treatment, the ulceration was quite healed, both inside the os and out; the cervix had returned pretty nearly to its natural size, and was quite free from inflammatory disease, as also the uterus and vagina. There was still pain in the lower hypogastric region, just above the pubis; but this pain was evidently referable to the neck of the bladder only. On exercising pressure between the hand, applied over the pubis, and the index applied internally, quite anteriorly to

the uterus, the pain was distinctly felt by the patient to be limited to the tissues thus circumscribed, that is, the neck of the bladder. This sensitive state of the bladder corresponded with other very decided symptoms of vesical irritation—viz., frequent desire to pass water, pain in the urethra, and the presence of numerous epithelial scales in the urine. The urine was otherwise nearly clear and healthy. The digestive functions had in a great measure recovered their tone, and the rest was good. She was beginning to walk a little, and could sit up on a sofa during the greater part of the day. The pains in the back and side had disappeared. The general health had rallied amazingly; she was stronger and better than she had been for many months.

I thought the patient was cured, and anticipated nearly entire freedom from pain at the next menstrual period. To my surprise, however, the menses were still attended with very great pain, and with great tenderness of the lower abdominal region. It became evident, therefore, that there must be some additional cause for the dysmenorrhœa, as it persisted, although in a very modified degree, after the entire removal of the inflammatory disease. Thinking that there might be a physical obstacle to the passage of the blood from the uterine cavity from partial closure of the cavity of the os, I determined to dilate it with sponge-bougies or tents. The uterine sound could not pass through the os internum, nor could I introduce even a much smaller wax-bougie.

In accordance with the above view I commenced dilating the cervix, and succeeded in three weeks—that is, before the next monthly period—in so dilating it as to be able to pass a tolerably sized wax-bougie into the uterus. This time the menses passed off nearly without pain; she suffered only two or three hours and had no abdominal tenderness.

The treatment having been thus brought to a close, the young lady returned to her family, and has since ceased to suffer at the monthly periods, except for a few hours at the onset. She has entirely got rid of all the old uterine symptoms, and can walk with ease. The digestion has become healthy, she has lost the vesical irritation, and is, in fact, perfectly restored to health. She says, indeed, that she can scarcely remember menstruation having ever been so free from pain as at present, certainly not since she was eighteen years of age. This lady subsequently married, and became the healthy and happy mother of a promising young family. She has passed through her various confinements, in which I have myself attended her, without any accident, and at the same time this paragraph is written is a blooming healthy matron of seven-and-thirty. Her history is that of many other of my youthful patients, who have, subsequently to my attendance and the recovery of their health, married and become the healthy mothers of healthy children.

*Remarks.*—The above case may be considered a model one, containing, as it does, nearly all the elements of a description of the dis-



case. We have present all the local results of inflammatory ulceration of the cervix, along with extreme rectal and vesical irritation—symptoms which, although very frequent, are not variable—the constitutional and functional sympathetic reactions, and intense dysmenorrhœa. The latter symptom was so prominent that it overshadowed all the rest, and was alone noticed; as occurred with the prolapsus uteri in the former case. That the inflammation was the principal cause of the dysmenorrhœa no one can doubt who reads attentively the history of this poor girl's sufferings, although there appears to have existed in her that congenital susceptibility of the uterus to which I have so repeatedly alluded. The contraction of the cavity of the cervix, which I had to remove by dilatation, was not congenital, I believe, but occasioned by the swelling and enlargement of the inflamed cervix, the effects of which persisted even after the inflammation had been subdued. Had it been congenital menstruation would have been very painful from the first, whereas it only became distressingly so at the age of twenty, subsequently to the appearance of the uterine symptoms. When dysmenorrhœa is thus occasioned by the contraction of the natural passages the contraction will often be found, on careful investigation, to be the result of previous inflammation.

The bare perusal of these two cases cannot fail to do away with any objections that may be entertained, on the score of delicacy, to the application of the doctrines which I have broached and of the practice which I have recommended. I have no hesitation in saying that it is my firm impression that both these young ladies would have been brought to an early grave by the disease under which they were laboring had not its nature been discovered and prompt and energetic measures been adopted. The first was sinking into a state of marasmus and febrile excitement, which would probably have terminated in the appearance of some fatal disease before very long. The second, a prey during ten days out of every twenty to the most agonizing pain, was all but bedridden, and her strength and constitution were evidently rapidly failing—indeed, she had been given up by her friends and relations—and considering that she had lost an elder sister by consumption, she was, indirectly, in great danger. When such sufferings as these, such dangers as these, are in question, and medical science possesses the means of averting them, and of restoring the sufferer to health and society, where is the person who could for a moment maintain that the physician ought to avert his eye and refuse all assistance from scruples of delicacy? Such a supposition even is preposterous. Once such facts as the above, now for the first time laid before the profession, are brought to light and proved, the deduction is inevitable—viz., that duty and humanity oblige the medical attendant to encounter and overcome all difficulties, whatever be their nature and magnitude.

The two following cases will illustrate the fact that this distressing disease may appear at a very early period of female life, during the

struggle which so often takes place for the establishment of the menstrual function.

### CASE III.

*Incipient Menstruation; Severe Inflammation of Vulva; Uterine Symptoms; Inflammation and Ulceration of Cervix.*

MARY S—, a strong, robust girl of seventeen, was brought to me at the Western General Dispensary, November 21, 1848, by a married sister. The latter told me that her sister was suffering so much from local inflammation that she could scarcely walk, and had been obliged to leave her place some time before. Her friends had consulted no one, because they thought the pains were connected with the coming-on of menstruation, and that if she rested they would give way.

This girl had been brought up in the country until ten. For the last four years she had been in service, and her health had been excellent until about a twelvemonth ago. At that time she began to experience occasional pains in the lumbar and hypogastric region, and frequent headache, as is often the case previous to menstruation. Four months previously, a copious flow of blood took place for the first time, after an effort. It lasted for an hour or two, and then ceased suddenly. From that time there had been no return of the menstrual flux, and she had never felt well. The lumbar and hypogastric pains soon became worse, and she was seized with an abundant white discharge. Two months previously a number of boils appeared on the labia majora, and gave her a great deal of pain. The breasts were constantly swollen and tender. The general health had suffered considerably. She was weak, low, and languid; the tongue was white, the bowels were confined. On examining the vulvar region, I found the labia majora and the nymphæ inflamed, swollen, and enlarged, and secreting a quantity of muco-pus. The hymen was perfect in every respect, but inflamed and swollen, the inflammation evidently passing into the vagina.

Under the influence of local antiphlogistic measures, and of appropriate general treatment, the vulvar inflammation rapidly subsided, and the general health improved. In the course of a fortnight, although there appeared but little inflammation left externally, the patient continued to complain of the same lumbar and hypogastric pains, of bearing down, and to experience a profuse muco-purulent vaginal discharge. Suspecting the possible existence of further disease, I gently dilated the hymen with the index, and passed it up to the cervix. I then at once discovered the cause of the inflammatory attack, the *fons mali*. The cervix was inflamed, enlarged, prolapsed, and evidently ulcerated. After using emollient and astringent injections for a few days, to diminish the irritability of the vagina, I was able to pass the small bivalve speculum, without injury to the hymen, and ascertained the correctness of the previously-formed opinion. The ulceration was very irritable and rather extensive. This patient

rapidly got well under the usual treatment. The menses again appeared, the breasts ceased to be tender and swollen, and she soon lost all the local uterine symptoms.

#### CASE IV.

*Incipient Menstruation; Abscess in Vulva; Uterine Symptoms;  
Inflammation and Ulceration of Cervix.*

SARAH F——, a thin, diminutive girl, sixteen years of age, but not looking more than thirteen, was brought to me, Nov. 15, 1848, at the Western General Dispensary, by her mother, for a swelling in the vulva. I learnt from the latter that her daughter was a very sickly child, but had enjoyed good health for some years, with the exception of the last few months. Nine months previously she went into service, and about that time began to experience pain in the lumbar and left ovarian regions. Six months previously she had a slight show for a few hours; and again three months afterwards. Since that time she had seen nothing, but the pains had been gradually increasing. A fortnight past she was attacked with inflammation of the left labium: an abscess formed and burst. This occurred while she was in service, and without the knowledge of her mother. As soon as the latter was made acquainted with what had occurred, she brought her to me.

On examination, I found the vulva rather swollen and inflamed generally, and the trace of an abscess in the left labium. Thinking the patient was merely suffering from difficulty in the establishment of the menses, accompanied by slight local inflammation, I did not pursue the investigation any farther, but merely resorted to general treatment, coupled with emollient local applications.

In a few days all trace of vulvar inflammation disappeared, and the menses came naturally. She subsequently, however, continued to suffer as much as ever from the lumbar and ovarian pains, and from bearing-down. These symptoms, indeed, were so marked that she could scarcely walk across the room. Under such circumstances, I felt called upon to examine the state of the uterus digitally. This I easily effected, the hymen being dilatable, although perfectly intact. In this case, as in the former, I found the cervix enlarged, sensitive, and the os open and velvety. The use of the small speculum also brought into view a well-defined inflammatory ulceration penetrating into the cavity of the cervix.

This patient rapidly got well under the usual treatment of the disease from which she was suffering.

Had not my attention fortunately been directed in these cases to the uterine symptoms, owing to the co-existence of vulvar inflammation, the disease of the uterine neck would probably not have been recognized. The symptoms indicating uterine disease, if complained of at all, would have been attributed to difficulty in the establishment of menstruation, and as the local affection was so severe as to render its spontaneous cure very unlikely, the health of the young females



might possibly have been ruined for life. I am, indeed, continually meeting with instances of severe inflammatory disease of the cervix uteri at a later period of life, in which I am able to trace the commencement of the morbid condition to the very origin of menstruation.

On looking over the above chapter, written so many years ago, it is a source of great gratification to find that I have nothing to alter, and but very little to add. Inflammation of the uterus in the virgin, although an exceptional form of disease, has been to me one of constant observation and study; the very great responsibility which rests on the medical attendant in such cases, having led many fellow-practitioners to appeal to my greater experience. The information thus gained has fully confirmed all the facts previously advanced.

I feel, therefore, that I have done much good both directly and indirectly; and now that I am advancing in life, and that, stricken in health, my powers of personal usefulness are impaired, this thought is productive of unspeakable satisfaction.

The lapse of years has indeed shown me that no contribution I have made to science has done more, or perhaps as much good to the cause of humanity as the above chapter, although its publication exposed me to much obloquy and long-marred professional progress. I am indeed, now, surrounded by a crowd of happy, healthy wives and mothers, whom I first knew as anemic, sofa-ridden sufferers, abandoned by the profession as incurable invalids, dejected and despondent, and apparently condemned to drag on, for a time only, a miserable existence. That such should be the case will be easily understood when we consider that, as elsewhere stated, with many of these young females the constitution is originally good, and that the disease is merely an accidental inflammatory malady. Once it is removed, the economy rallies, and if the cure is radical, and if the great restorative powers of a healthy youthful organization are in the background, there is nothing to prevent a thorough and permanent recovery of health. (1861.)

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## CHAPTER VII.

### INFLAMMATION AND ULCERATION OF THE NECK OF THE UTERUS DURING PREGNANCY.

ITS INFLUENCE AS A CAUSE OF LABORIOUS PREGNANCY, HEMORRHAGE,  
OBSTINATE SICKNESS, DEATH OF THE FÆTUS, MOLES, ABORTION, ETC.

THE discovery of the frequent existence of inflammation, with or without ulceration, during pregnancy is one of vital importance, inasmuch as it affords a key to most of the accidents and morbid symp-

toms of the pregnant period. It appears to have escaped the notice of all the continental writers—such as Lisfranc, Duparcque, &c.—who have recently paid attention to uterine diseases, and no English work or publication on midwifery or the diseases of women contains *the most distant allusion* even to the possible existence of such a disease during the pregnant state.

My attention was first drawn, in the year 1840, to inflammatory ulceration of the cervix uteri in pregnant females, by M. Boys de Loury, one of the physicians of St. Lazarre, an hospital prison in Paris, where women of the town laboring under syphilis are confined and treated. The speculum being used with all the patients, as a means of exploration (with those who are pregnant as well as with those who are not), M. Boys de Loury thus discovered that inflammation, and especially ulcerative inflammation, of the cervix is not uncommon in pregnant women, and that when left to itself, it frequently occasions abortion. I believe that I am authorized to attribute to M. Boys de Loury this important discovery, as I certainly never heard any other practitioner before him allude in the most cursory manner to the subject, and I am not acquainted even with a hint respecting it in the entire range of medical literature. M. Boys de Loury's discovery was briefly noticed, in 1843, by one of his house-physicians, M. H. Costilhes, in a thesis sustained before the Paris Faculty of Medicine. M. Costilhes's cursory notice was the only one that had appeared of this pathological fact in any language, when the first edition of the present work was published. Since that time I have devoted great attention to the elucidation of inflammatory disease of the cervix, and to chronic metritis generally during pregnancy, and have ascertained that they are of frequent occurrence, that they are the keystone to the diseases of the pregnant state, and the most general cause of laborious pregnancy, obstinate sickness, moles, abortions, miscarriages, and hemorrhage. The results of my researches on these points, as contained in the present chapter, were read before the physiological section of the British Association at Southampton, on September 11th, 1846.

Valuable corroborative evidence has since been brought forward by Mr. Whitehead of Manchester, whose laborious and interesting investigations on this subject are contained in the treatise on abortion which he published the following year, 1847.

When inflammation of the cervix exists during pregnancy, a minute inquiry into the previous uterine history of the patient will generally prove that it existed *previously* to the pregnancy. I formerly believed that the disease mostly originated subsequently to conception. This opinion, however, subsequent experience on a wider field has shown me to be erroneous. Although it sometimes thus originates, in the great majority of cases it is evident that the cervix is diseased previous to conception. The recognition of this fact has necessarily led me to modify my opinion with reference to the influence of inflammation and ulceration of the uterine neck as a

barrier to conception. In most instances, it has this effect, rendering women sterile who have never conceived, and arresting conception in those who have. This rule suffers, however, many exceptions, especially with the latter class of females. The disease generally produces sterility when it attacks young married females at the onset of their married life, but does not so generally prevent conception when they have already conceived, and have previously had children.

*Local and Anatomical Symptoms.*—The local symptoms of inflammation of the uterine neck existing during pregnancy are mostly the same as those which are observed during the non-pregnant state, but more or less modified and obscured by the changed condition of the uterus. These symptoms may be briefly enumerated as follows: Continued pain in the lower part of the back, and in the hypogastric region above and behind the pelvis, in the ovarian regions, and more or less over the entire abdomen; a muco-purulent vaginal discharge; and a sensation of great pelvic weight and bearing down. To these we may add the data furnished by the touch, and by instrumental examination, which we will first notice.

The sensation afforded to the touch differs considerably from that which is perceived, under similar circumstances, in a non-pregnant female, owing to the changes that pregnancy itself produces in the cervix. As is well known to accoucheurs, the healthy uterine neck in the pregnant female undergoes successive changes as pregnancy advances, and as the uterus increases in size—changes which may be said to consist in its gradual enlargement and softening, in the gradual opening of the os, and in the change of its position; for instead of being nearly in the direction of the axis of the lower outlet of the pelvis (its usual position), as the uterus ascends into the abdominal cavity, the cervix becomes retroverted, and partially assumes the direction of the axis of the upper pelvic outlet. On the other hand, it will be remembered that increased volume in the cervix, an open state of the os, and retroversion, coupled with a velvety surface, are the principal characteristic indications to the touch, of inflammation and ulceration of the uterine neck in the non-pregnant condition.

This partial similitude between the changes, appreciable to the touch, produced in the cervix by inflammation and ulceration, and by pregnancy, renders it much more difficult to recognize ulceration of the neck of the uterus by digital examination in pregnant than in non-pregnant women. The distinction may, however, still be made, even in the early stage of pregnancy, through the following data, by an accoucheur whose touch has been thoroughly educated. When inflamed and ulcerated, the non-pregnant cervix is usually more or less indurated, whereas in the first months of pregnancy, even when inflamed and ulcerated, it is generally, but not always soft; the ulcerated os is much more open than is consistent with the period of the pregnancy; and instead of presenting a smooth surface, it has a very peculiar feel, of which the word velvety scarcely conveys an idea. Its surface appears fungous to the touch, and in a more advanced period



of pregnancy, of a quaggy, pultaceous consistency. In the midst of this fungous surface may sometimes be felt small, movable indurations of the size of a large pin's head, constituted by indurated and hypertrophied mucous crypts. On withdrawing the finger it will generally be found covered with muco-pus, and sometimes tinged with blood; indeed, the vagina generally contains a great quantity of muco-pus, especially in its upper region.

On examining with the speculum, the vulva and vagina are found red and congested, as is the case in pregnancy; but the congestion is carried to a greater extent than it naturally would be, and the redness is much more vivid. The cervix being directed backwards, after the first few months of pregnancy, it is often rather difficult to bring it fairly into view: the difficulty may, however, always be overcome by using either the conical bivalve or large conical speculum, according to the case. When the cervix has been brought fully into view it will be found tumid, congested, of a livid hue, voluminous, soft, or only partially indurated; and on one or both lips, generally penetrating into the cavity of the os, is often seen a more or less extensive ulceration, sometimes covered with large fungous granulations. This great development of the granulations, this luxuriant fungosity of the ulcerated surface, is so marked in some cases, and so seldom observed in the non-pregnant state, that when it is found it may be said in itself to constitute a symptom of pregnancy. I have, in several instances, recognized the gravid state of the uterus from the peculiar appearance alone of an inflammatory ulceration of the cervix. The ulceration is generally covered with a great quantity of muco-pus, and often bleeds very readily, owing to the luxuriance of the granulations. Its fungosity is sometimes so great that it may occasion, and has occasioned, in the minds of persons unacquainted with the above facts, the impression that the patient is affected with malignant ulceration of the organ. I have generally found ulceration of the cervix in pregnant women begin to assume this fungous character about the end of the third or fourth month of pregnancy. The vagina often presents marked hypertrophy of the mucous follicles.

If the cervix has been previously hypertrophied and indurated, it begins to soften about the third month, the softening first taking place in the interval of the segments, if the induration is lobular, and subsequently pervading the entire cervix. This gradual softening of the hypertrophied and indurated cervix, which appears to take place under the influence of the changes that occur in the uterus during pregnancy, no doubt accounts for induration of the os at the time of labor being so very rare, when compared with its frequency in females who present it as the sequela of chronic inflammation. The softening itself is the immediate result of the gradually increasing vitality of every part of the uterine system during pregnancy—a physiological condition which also explains the luxuriance of the ulcerations.

The pains in the lumbar region are generally very severe and often referred directly to the sacrum itself. They are of a continued char-

acter; not merely occasioned by fatigue or over-exertion, but always to be perceived, night or day, on the patient analyzing her sensations—a very important distinction in inflammation of the uterus—the lumbar pains of weakness being occasional or intermitting only. The pains in the hypogastrium, and in the ovarian regions, are also often very severe, and ascend high in the developed abdomen, so as to occupy all, or a considerable portion, of its lower half. The purulent secretion is generally profuse; but as there is often a considerable white flux from the congested cervix and vagina, the pus from the ulcer becomes mixed with it, and loses its characteristic appearance. The patient thus appears merely to have a white leucorrhœal discharge, unless a digital examination be resorted to, when the finger is withdrawn covered with pus. I have known cases of ulceration in incipient pregnancy, in which there has been no leucorrhœal discharge, the pus secreted by the ulcerated surface being absorbed in the vagina.

Patients thus affected often suffer from hemorrhage from the ulcerated surface. This hemorrhage may be periodical, and simulate menstruation. Indeed, it is, I believe, principally the existence of a periodical hemorrhage of this kind, that has given rise to the opinion that menstruation may continue for some months after conception. Females themselves always connect any periodical show of blood which may present itself, with the idea of menstruation, whether after conception or not. Their medical attendants, also, not being aware that the neck of the uterus may be extensively ulcerated during pregnancy, and that blood frequently exudes from the ulcerated surface, have fallen into the same error. We may, however, admit, that although the hemorrhage cannot be assimilated to menstruation, as it occurs from a diseased surface which is not naturally the seat of the menstrual exudation, its periodical appearance during the first months of pregnancy is connected with the persistence of the periodical molimen hemorrhagicum, which accompanies menstruation. Whether it be so or not, I have no hesitation in saying, that in a large proportion of the cases in which hemorrhage occurs repeatedly during the first months of pregnancy, without being followed by abortion, it is connected with and caused by ulceration of the cervix. When this is the case, it is characterized by being slight, by occurring after congress or fatigue, and by being unaccompanied by uterine pains. The hemorrhage which precedes abortion, and is occasioned by separation of the membranes, takes place in the uterine cavity, is more severe, more continuous, and is generally accompanied by severe uterine pains.

*General Symptoms.*—The natural and inevitable result of such a state as the one above described is, that the general health suffers deeply. The patient, racked with pains, which, even when not very severe, are most harassing from their continuance, loses appetite, rest, strength, and flesh: she becomes pale and thin, a prey to cardialgia, constipation, cephalalgia, and palpitations. Feeling easier in the reclining posi-

tion, she lies down a great part of her time, and awaits her delivery, as the only probable termination of symptoms which she—and, generally speaking, her medical attendant—attributes to the pregnancy alone; whereas, they are, in reality, the result of local uterine inflammation, susceptible, in most cases, of a speedy cure.

One of the commonest and most distressing of the general symptoms is an extreme aggravation of the sickness, which is naturally present during the first months of pregnancy. The existence of inflammation of the cervix will, indeed, I firmly believe, be found to be the key to those cases of obstinate sickness which occasionally defy all medicinal aid, reduce the patient to the brink of the grave, and sometimes even render it necessary to bring on abortion, in order to save the life of the mother. At least I have found such to be the case, in nearly every instance of the kind in which I have been consulted, for many years—since my attention has been directed to the subject.

When the patient has already gone through one or more pregnancies, we have in them an important element in the diagnosis—a painful laborious pregnancy, checkered by hemorrhagic fluxes and obstinate sickness, may always be considered suspicious, when previous pregnancies have been free from these symptoms. They alone, in such a case, warrant a careful examination.

The symptoms which I have enumerated, and which are generally considered—although erroneously as we have seen—merely to characterize a weak state of the health, are also those which are known frequently to precede abortion. And so it is in reality; the inflammatory affections of the lower segment of the uterus, which I am now describing, I have found to be a very common cause of abortion. Indeed, they are, without doubt, the unsuspected origin of a very large proportion of the abortions and miscarriages that occur. It stands to reason that the existence of chronic inflammation of the uterine neck must often occasion such an amount of inflammatory congestion of the entire uterine system, as to be incompatible with the development of the foetus, even during the first months of pregnancy. Hence the death of the foetus, repeated hemorrhage, diseased placenta, the formation of moles, and finally, abortion. If the patient escapes during the first months of pregnancy, the gradual dilatation of the inflamed tissues of the cervix which takes place in the latter months, causes irritation, and exciting the uterus to contract by reflex spinal action, may occasion abortion or premature labor. A patient whom I lately attended, a young married woman of four-and-twenty, laboring under severe inflammatory ulceration of the cervix, miscarried five times successively within the first four years of her marriage, at the end of the sixth or at the beginning of the seventh month. I am continually seeing similar cases.

The importance of this pathological condition of the lower segment of the uterus is increased by the fact that not unfrequently the inflammation extends to the body of the uterus, mostly in a chronic form.



Generally speaking a limited region of the uterus only is the seat of chronic inflammation. When the inflammation, acute or chronic, extends to the entire organ, it speedily brings the pregnancy to a close. When it is partial, the pregnancy may, on the contrary, drag on painfully and laboriously.

In some instances, notwithstanding the existence of severe inflammation and ulceration of the cervix, and even of chronic metritis, the patient goes her full time, and is safely delivered. But the fact of extensive ulceration existing at the uterine neck is a most unfavorable complication to labor, rendering the patient much more liable to metropéritonitis, and to the accidents which occasionally follow parturition.

Once under the influence of appropriate treatment, the inflammation, generally speaking, soon begins to subside, and the ulceration, when present, assumes a healthier, less luxuriant appearance, then begins to cicatrize, and finally heals. When the process of cicatrization has fairly set in, and the irritability of the ulcer and of the surrounding tissues has been subdued, there is little fear of abortion taking place. But until this be the case, abortion is imminent, and may, indeed, be feared daily. In some instances, the morbid change which the disease has occasioned in the uterus and its contents has progressed too far before the treatment is commenced, and in spite of all our efforts, and even of progressive amelioration, abortion takes place from some of the causes enumerated above. It is necessary, therefore, to apprise the patient, under all circumstances, of the danger she encounters, as she would otherwise be certain to attribute the miscarriage to the instrumental examination. This leads me to say a few words respecting the use of the speculum in these cases.

The only circumstance which can explain the fact of the frequent existence of inflammation and ulceration of the uterine neck during pregnancy having hitherto passed unperceived by the accoucheurs and pathologists who in France freely resort to instrumental examination in uterine disease, is the general impression among them that the use of the speculum in pregnant women is dangerous, and likely to give rise to abortion. Such a notion, however, is most unfounded, as I have ascertained from my own experience. A careful instrumental dilatation of the vagina in a pregnant female is of itself perfectly harmless, as the slightest reflection will show. On the other hand, it is only by combining instrumental treatment with the other means employed, that the disease can be cured; and I have found the chances of abortion taking place under the influence of the local affection itself so great, as to render it imperative on the medical attendant to adopt every curative means in his power.

Now that I have shown the existence of inflammatory disease to be the real cause of very many of the diseases and accidents of pregnancy, I trust that practical accoucheurs will throw aside groundless fears, and investigate the subject for themselves, as a duty which they owe to their patients. The facts which I have brought forward are certainly calculated deeply to modify the existing state of pathology

respecting the diseases of pregnancy and the causes of abortion, as also the treatment of the morbid phenomena which precede and follow the abortion in a large proportion of the cases which occur in practice.

I may here mention a practical fact of some importance. When women who have suffered from inflammation and inflammatory ulceration, become pregnant soon after the treatment and cure of the disease, they nearly always suffer greatly from uterine, abdominal, and dorsal pains throughout the duration of the pregnancy. This is the case even when there is no actual disease present. The uterus is still sensitive from past disease, and the changes that accompany pregnancy cannot take place without morbidly developing that sensibility.

The following cases will illustrate the description of the disease which I have given above.

#### CASES IN WHICH ABORTION WAS PREVENTED.

##### CASE V.

*Extensive Ulcerative Inflammation of the Neck of the Uterus existing during Pregnancy, and subdued without Abortion occurring.*

On the 24th of April, 1846, I was consulted, at the Western General Dispensary, for leucorrhœa, by Anne E——, aged twenty-nine, a physician's patient. The following was the uterine history of this young woman:—

The catamenia appeared at the age of eleven, and thenceforth returned irregularly every fortnight or three weeks, lasting from five to seven days. The flow of blood was always very abundant, and accompanied by great pain during the entire period. In the interval, she was generally subject to a slight white vaginal discharge. Her general health was very indifferent, and she was nearly always under medical treatment. Married at nineteen, she became pregnant immediately, and had a tedious and difficult labor, the forceps having been used; the child was stillborn. She rallied slowly; the menses returned about a month after her confinement, and she again became pregnant. She subsequently had two natural labors, and then three miscarriages; one at three months, one at nine weeks, and one at ten weeks. During this latter period she suffered from an abundant yellow vaginal discharge, with bearing-down, and severe pain in the hypogastric, lumbar, and ovarian regions; the intervening catamenia were also very painful. After passing three months at the sea-side, the symptoms above enumerated diminished considerably, and on her return to town she again became pregnant. She was confined at her full period eighteen months ago, and nursed the child for a twelve-month. During this pregnancy she was very poorly, had severe pains in the uterus, and was made to apply leeches repeatedly to the left inguinal region, where she felt continued pain. Whilst nursing, and

since, the menses have appeared regularly, with great pain, and very abundantly. In the interval of menstruation she has had an abundant yellow vaginal discharge, and has suffered greatly, as before, from bearing-down, and from pain in the lumbar, hypogastric, and ovarian regions. Within the last few months, the yellow discharge in the interval of menstruation has often been mixed with blood, especially after congress. The latter has always been painful since the first period of marriage, but has become unbearable within the last five or six months. Her general health has gradually been giving way for the last three or four years. She is now wan, emaciated, sallow, and presents the appearance of a person laboring under confirmed organic disease. She bends forward, and can scarcely hold herself upright. The tongue is white; no appetite; the stomach so irritable that it rejects nearly everything, and she lives all but entirely on rice and arrowroot; constipation, rest bad, extreme weakness. The last time she menstruated regularly was at the end of February; the flow of blood then lasted six or seven days, and was very abundant, amounting nearly to flooding; she has since had repeated sanguinolent discharge, which she thinks may have been the menses, but she cannot be certain.

By digital examination, the following was found to be the condition of the uterine organs: Cervix voluminous, indurated, especially the anterior lip; velvety fungous sensation around and in the os, more especially marked on the inferior lip; cervix very much retroverted. —Speculum: vagina very congested, containing pus; cervix attained and exposed with difficulty, even with the bivalve speculum, owing to extreme retroversion; the anterior lip presents considerable chronic hypertrophy and induration, but is only ulcerated in the immediate vicinity of the os; the inferior lip and circumference of the os present a fungous, bleeding, ulcerated surface; uterus slightly enlarged.

The great and rather livid congestion of the vagina, the fungous character of the ulcer, and the absence of any considerable flow of blood since the end of February, inclined me at first to suspect the existence of pregnancy; but I almost discarded the idea on reflecting that she had evidently been suffering from ulceration of the cervix for years; that, as she had been subject for some months to continued bloody discharges from the ulceration, the existence of menstruation might have passed unperceived, and that the vaginal redness might be merely the result of inflammation. I determined, however, to be cautious in the treatment, as there was some doubt as to the exact nature of the case. The nitrate of silver was freely applied to the ulcerated surface; weak sulphate of zinc vaginal injections were prescribed, as also a light diet, perfect rest, the infusion of diosma, with carbonate of soda, internally, and an occasional mild purgative.

May 1st.—The free application of the nitrate of silver was attended with but little uneasiness or pain, but was followed by rather severe pain for the two ensuing days. On the third day there was a considerable discharge of blood, and from that time she was easier. The



nitrate of silver was again used, the other means of treatment being continued, the general state remaining the same.

15th.—The ulceration still presented the same fungous appearance, and excreted blood continually; she had had a sanguinolent discharge for the last week, without intermission. The nitrate of silver, although freely employed, being evidently powerless to modify the ulceration, I applied the acid nitrate of mercury. Much more pain was experienced than on the previous cauterization, the patient nearly fainting: same treatment.—The flow of blood was arrested for two days, and then came on again, only lasting, however, three days. Subsequently, the vaginal discharge assumed a yellow, purulent character. On my next examination, I found the character of the ulceration favorably modified; it was no longer so irritable and disposed to bleed, on being touched. The acid nitrate of mercury was again applied.

June 4th.—Great pain was experienced after the last cauterization; the pains being, as usual, principally in the lumbar and ovarian regions; she was now much easier, more so, indeed, than before the treatment was commenced. There was an abundant yellow vaginal discharge, but no blood; mucous membrane of vagina less red, ulceration beginning to present a healthy appearance, and to heal at the circumference. On examining the uterus attentively, I found that it had evidently much increased in size, and was rising from the cavity of the pelvis. Since I had attended her there had been no continued show of blood which she could consider equivalent to menstruation, although she had been losing blood, more or less, nearly every day. She had lately, also, fainted repeatedly, which had never before occurred, except during pregnancy. The above data led me at once to conclude that the patient was pregnant, and that, consequently, my first surmise was correct. Such proved to be the case, the uterus continuing to increase, all the symptoms of pregnancy becoming gradually more and more decided. She was still, at this time, so weak, that she could scarcely walk into the consulting-room; the tongue, however, was more natural; she was beginning to feel a slight return of appetite, and could keep a little fish on her stomach. Considering that the system would be able to bear a more tonic medication, I ordered her the citrate of iron, continuing the periodical application of nitrate of silver to the ulcerated surface, and the use of the astringent vaginal injections, tepid hip-baths, &c.

From this time, under the above treatment, she continued to progress favorably. The lumbar, ovarian, and hypogastric pains gradually diminished, as did also the leucorrhœal discharge; the cicatrization of the ulcerated cervix advanced with slow but sure steps, the circumference of the ulceration healing first, and then the cavity of the open os. The induration of the anterior lip of the cervix gradually gave way as pregnancy progressed, the entire cervix becoming perfectly soft to the touch. The general health improved as the local inflammation subsided. At one time she had for several days strong uterine bearing-down pains, similar to those which she had experienced

previous to her miscarriage. They were, however, subdued by rest, and by repeated injections of laudanum into the rectum.

July 23d.—The ulceration completely healed, scarcely any leucorrhœal discharge, what little exists being principally mucus. The cervix soft throughout, but rather more voluminous than it naturally is at this period of pregnancy. The general health was very much improved in every respect; the fainting fits has ceased; the appetite was better; the irritability of the stomach had disappeared; and the general nutrition was improving. She still felt occasional pain in the loins and uterus, and was very weak. She had not felt the child, and fancied it was dead, of which, however, there was no other evidence.

Under these circumstances, she asked me if she might go to Brighton. As I considered the uterine inflammation to be quite subdued, and the symptoms under which she labored to be merely the result of general debility, likely to be benefited by change of air, I consented. On her return at the beginning of September, I found that the general health had rallied amazingly; she was quite a different person. The pregnancy had favorably progressed, and the foetal heart was heard pulsating vigorously. The cervix, which I again examined instrumentally, I found perfectly healthy; there was no vaginal discharge, except a little mucus; and the lumbar and uterine pains had almost entirely disappeared. The pregnancy continued to progress most satisfactorily towards its termination; she had not, indeed, been so well, she stated, for years; and at the proper time she was safely delivered of a healthy child.

*Remarks.*—The above is an interesting illustration of the vitally important facts which I have described, and shows what a decidedly practical bearing they have upon obstetricy. Nor is this a rare case, selected to give importance to my previous statements. I have always under my care a number of patients similarly suffering; and have no doubt that there are in this country, at the present time, thousands of females whose health and offspring are similarly endangered.

In looking over the uterine history of this patient, we find that she had menstruated early, and that menstruation was, from the first, irregular, painful, and abundant. Married early in life, her first labor was instrumental, but does not appear to have left any recollection of subsequent morbid symptoms in her mind. Two other natural labors follow, and then three miscarriages. During the entire period occupied by these miscarriages, severe uterine symptoms were present, as also a profuse yellow vaginal discharge, and uterine lumbar pains, accompanied by great general debility. From that time she had never been free from these symptoms. Her general health improved during an absence from town—a fact which I daily observe in all forms of chronic uterine inflammation—but the improvement, as is usual, was only temporary. She again became pregnant, and was in a very bad state of health during her entire pregnancy, daily expecting to miscarry, and obliged repeatedly to have recourse to the ex-

ternal application of leeches, owing to the intensity of the uterine pains which she suffered. From the time of her confinement until I saw her, she gradually became worse, and when she applied to me she was in a most deplorable state of pain, weakness, and debility. She had evidently been laboring under inflammation and ulceration of the cervix for years, and the existence of the uterine disease was no doubt the cause of the miscarriages and of the last laborious pregnancy. It would probably have been impossible, when she consulted me, to prevent abortion again occurring, possibly with flooding and other serious results, had not the local disease been subdued. On the other hand, how could any but energetic local treatment modify a large fungous bleeding surface, such as the one I have described?

The gradual softening of the indurated tissues as the pregnancy advanced, and as the inflammation subsided, is remarkable and important. This softening, as I have stated, nearly always takes place during the progress of pregnancy, and accounts for the rarity of inflammatory induration of the neck of the uterus in confinements. As the local disease diminishes, we see the general health rally, and the pregnancy become more normal; until, a short time after all inflammation has disappeared, the patient loses nearly all her pains and morbid symptoms, and her health becomes better than it has been for years. Considering the amount of disease, the duration of treatment was not long. The ulceration was healed, and all uterine inflammation subdued, within two months. This would not have been the case, I think, in the non-pregnant state, with the same extent of disease; but inflammatory ulceration of the neck of the uterus, although apparently so much more formidable with pregnant than with non-pregnant women, seems often to heal more rapidly in the former than in the latter. This case also shows that very extensive disease of the uterine neck does not always prevent impregnation.

#### CASE VI.

*Extensive Inflammatory Ulceration of the Neck of the Uterus existing during Pregnancy, and subdued without Abortion taking place. Cure of the Disease, but Death from Metro-peritonitis after a favorable Confinement.*

June 26th, 1846, I was consulted at the Western Dispensary by Eliza T——, a pale, sickly-looking, young married woman, aged twenty-three. Her uterine and general antecedents were as follows: Menstruated at sixteen. She continued to be so regularly every three weeks until she married, four months ago, at the end of last February, just after menstruation. The menses were usually abundant, lasting four days, during the first of which she was generally in an agony of pain; they were followed by a white leucorrhœal discharge, which lasted for some days. Her health, however, was very good until about a twelvemonth ago, when the whites increased in intensity, lasting during the entire menstrual interval, and she became weak and



poorly. She also experienced severe pain in the back, and occasionally in her side. After her marriage the first attempts at intercourse were followed by such severe uterine pains that she was obliged to return home to her family, and was confined to bed for above a week. The same symptoms afterwards occurred on every similar occasion, and were always accompanied, as at first, by the loss of more or less blood. The leucorrhœal discharge, which she recollects to have been then of a decidedly yellow character, was occasionally streaked with blood, even in the absence of the cause mentioned. There was never any flow of blood, however, which could be considered menstrual. Her general health gradually became more and more affected. When I saw her she was pale and sallow, although rather stout, and felt very weak and ill—tongue white, no appetite, bowels constipated, cephalalgia, cardialgia, rest bad, disturbed by dreams, frequent hysterical and fainting fits.

On examination I found the uterus enlarged, rising in the abdomen several inches above the pubis, as in the fourth or fifth month of pregnancy. The cervix, although voluminous, was not much indurated; the os was very open, and around and within it the spongy sensation of an ulcerated surface was distinct. On withdrawing the finger it was found covered with pus tinged with blood. On using the speculum the vagina appeared much more florid than is generally the case in the first months of pregnancy; it was lax, and contained a considerable quantity of pus. The cervix was voluminous, congested, of a florid, red hue, and presented an extensive fungous bleeding ulceration existing on both lips of the cervix around the os, and extending into the cervical cavity. The ulceration was freely cauterized with the nitrate of silver; alum injections were prescribed, perfect rest, an occasional saline aperient mixture, and very light diet.

July 3d.—The application of the caustic was followed, for several days, by an abundant sanguineo-purulent secretion. On the disappearance of the blood, the discharge diminished in quantity. The patient feels easier; the uterine and lumbar pains are less intense; the ulceration has a less fungous and more healthy appearance. Treatment the same as before.

10th.—The ulceration is diminished to half its original size, and is healthy-looking; vagina less injected; pains in uterus and back very much better; leucorrhœa less; alum injections, cauterization with the nitrate of silver.

17th.—Ulceration healed, except in the cavity of the open cervix, and immediately around it. Leucorrhœal discharge, white, no longer purulent; the fainting fits are less frequent, and the general health is much improved. Continue same treatment.

August 10th.—On examining the cervix I found the ulceration completely healed; the redness of the vagina and uterine neck was merely what is usually present at this period of pregnancy; the pains in the back and uterus had almost entirely left her, as had also the leucorrhœal discharge. The general health had rallied in a very

marked manner. She had not felt so well, she said, for months before her marriage.

On the 1st of September, I again ascertained, instrumentally, the perfect integrity of the cervix. I continued, however, to see her at intervals. She remained quite free from her former uterine symptoms, gradually recovering health and strength, although rather weak. When I last saw her, in the eighth month of her pregnancy, she did not present an unfavorable symptom, and appeared in good spirits. She had latterly had a severe attack of acute bronchitis, from which, however, she had quite recovered. I then lost sight of her, and only heard, some months afterwards, that she had entered Queen Charlotte's Lying-in Hospital, for her confinement, which took place favorably, but that she was attacked with metro-peritonitis, and died few days afterwards.

*Remarks.*—This unfortunate young woman had, from the commencement of menstruation, presented that peculiar susceptibility of the uterine system which was also noticed in the former case. A year or more previous to her marriage, in addition to the symptoms indicating an all but permanent congestive state of the uterine system, others supervened, which render it all but certain that inflammatory disease had established itself in the vagina and cervix. Marriage, as is usually the case with such patients, was followed by an immediate and marked increase in the intensity of the inflammatory symptoms. The presence of an ulcerated surface after marriage was proved by the loss of blood that invariably followed congress, and by the streak of that fluid frequently found in the vaginal discharge. The ulcerative inflammation increased rapidly as pregnancy advanced, and the general health became more and more debilitated and depressed by the combined influence of pain, purulent discharge, and sympathetic reaction; thence severe hysteric accidents, and the whole train of symptoms which I noticed when I first saw her.

The patient was young, and of a naturally good constitution, which had not yet had time to suffer any very great deterioration; consequently, no sooner was the necessary local treatment resorted to, than she began to rally. The cicatrization of the ulceration at once commenced, the symptoms of uterine irritability diminished, the hysterical symptoms lessened, the general health improved, and within seven weeks—an extremely limited period, considering the great extent of the disease—the ulcerated surface was healed, and all trace of inflammation had subsided: her health had also partially recovered, although but very few and simple general therapeutic agents had been administered. Her death from metro-peritonitis in a lying-in hospital may have been accidental. It is impossible, however, not to feel that the inflammatory disease of the uterus, from which she had suffered so much, although cured long before the delivery took place, may have left her more exposed to puerperal uterine inflammation than other females who have not been so affected.

## CASES FOLLOWED BY ABORTION.

In the cases which I have given above, the ulcerative inflammation of the cervix, although severe, and occurring in pregnant females, whose constitutions had been much debilitated by long-continued suffering, was entirely subdued without the course of the pregnancy being disturbed. Such is generally the result obtained by judicious local treatment, especially if the existence of the inflammatory disease is discovered during the early months of pregnancy. The irritability of the ulcerated surface being modified, and the intensity of the local inflammation subdued, all danger of abortion disappears. Occasionally, however, the most judicious and careful treatment fails in preventing the occurrence of abortion, which may be produced in various ways. In the early months of pregnancy, as we have seen, the uterine inflammation and the congestion which accompanies it, sometimes seem incompatible with the life of the fœtus, the expulsion of which is generally preceded by partial separation of the placenta, and by flooding. It may also occasion disease of the ovum in the early stage of its development, and thus occasion the death of the foetal germ and the formation of a mole, followed by its subsequent expulsion. Diseased conditions of the placenta, atrophy, fatty degeneration, &c., may recognize the same origin.

Sometimes abortion only takes place in a more advanced stage of pregnancy. It then often appears to occur under the influence of the contractility of the developed uterine fibre, called into play by reflex action.

The following case is an illustration of the severe ulcerative disease of the cervix during pregnancy, followed by abortion soon after its discovery, notwithstanding treatment:—

## CASE VII.

*Ulcerative Inflammation of the Uterine Neck, recognized in the Sixth Month of Pregnancy; Abortion; four previous Abortions at the same Period of Pregnancy; ultimate Recovery, and followed by a normal Pregnancy.*

April the 12th, 1846, I was requested, at the Western Dispensary, to sign a midwifery letter, by Elizabeth G——, a married woman, aged twenty-eight, six months gone in her fifth pregnancy. On inquiring as to the present and past state of her health—a precaution which I generally take under similar circumstances—I was told that she felt very unwell; that she had miscarried four times since her marriage, within the last four years; that the last three miscarriages had occurred at six or seven months, the period of pregnancy at which she had then arrived; and that she had then experienced all the symptoms which had preceded the former miscarriages. This statement induced me to examine more minutely into her history, when I ascertained the



following details. Tall and rather thin, her health had been always delicate; she was born and brought up in town. Menstruated at seventeen, she was irregularly unwell, but without pain, for a year; the menses then disappeared for two years, during which time she was very poorly. At twenty they returned, and continued to appear regularly until she married, at the age of twenty-four. She became at once pregnant, and aborted at three months, cause unknown. Her second abortion, which occurred at six months, as likewise the subsequent ones, was preceded by a week's flooding, and she was confined to her bed for a fortnight. Since that epoch she had always had a yellow leucorrhœal discharge. As a girl, she often had "the whites," but the discharge was never yellow. Her abortions were never preceded by any circumstances to which she could ascribe them; uterine pains, sometimes accompanied by flooding, came on a few hours or days previously, gradually increased, and terminated in the expulsion of the fœtus. During the present pregnancy she had been much weaker and more generally indisposed than before; so much so, that she had not been able to work at all, which was not the case in her former pregnancies. She had had throughout severe pain in the lumbar region, and occasionally slight pains in the ovarian and hypogastric regions. The leucorrhœal discharge had been for some months more abundant and thicker. For the last two months she had experienced severe cephalalgia, accompanied by extreme heaviness. The appetite, however, was tolerably good; bowels costive; rest indifferent. She had been much troubled latterly by nausea and acidity. Pulse very full.

By digital examination I found the abdomen developed, the uterus rising above the umbilicus, as in the beginning of the seventh month of pregnancy. The vagina was moistened by an abundant secretion. The cervix, in its usual position, more voluminous and softer than it is normally at this period of pregnancy, formed a quaggy mass; its surface, of a fungous softness, presented, more especially round the os, which was very open, numerous small indurations, about the size of large pin heads. On withdrawing the finger, it was covered with thick whitish pus. This pulpy, fungous state of the cervix, along with the partial indurations, the purulent discharge, the general symptoms, and the previous history of the case—all indicating the existence of extensive ulcerative inflammation of the cervix, I proposed an instrumental examination. This, however, the patient would not consent to; I therefore ordered her to be bled to twelve ounces, and gave her a mild purgative.

On the 21st I saw her again. The bleeding had slightly relieved the cephalalgia, and softened the pulse, but all the other symptoms were present, and had more attracted her attention, since I had so minutely questioned her. On my again pointing out the necessity of instrumental examination, she no longer offered any objection. The vulva was congested and swollen; the vagina red, tender, and bathed with pus. On getting the cervix between the expanded blades of the

conical bivalve speculum, I found that it presented a large, fungous ulceration, covered with pus, and readily bleeding on being touched. The entire cervix was covered with luxuriant granulations; and presented a very different appearance to that which ulceration offers in the unimpregnated state. It was a fungous ulceration, softened and broken up, as it were. From the regularity of the surface, however, from the absence of uneven, deep-seated induration, and the frankly purulent nature of the secretion, the ulceration was evidently of an inflammatory nature. I therefore touched the entire diseased surface with the nitrate of silver, and ordered astringent vaginal injections with the sulphate of zinc night and morning; mild aperients, and a tonic antacid mixture (infusion of gentian and carbonate of magnesia); light diet; complete rest.

28th.—The application of the nitrate of silver was followed by a slight oozing of blood for three days, but by no increase in the local pains. The latter are still severe in the lower segment of the developed abdomen and in the loins. The yellow discharge is very abundant. She has the same bearing-down pains which preceded her other miscarriages. Same treatment.

May 4th.—I was summoned to Mrs. G——'s residence, and found that she had miscarried, during the previous night, of a seven-months' child, which lived a few hours only. The bearing-down uterine pains had never left her from the time I last saw her. The previous afternoon they had been succeeded by regular labor-pains, and the delivery was completed in the course of eight hours, without anything unusual having occurred. I continued to see her for the first two weeks after delivery, during which period no unusual symptom appeared. She suffered, however, more than is generally the case, from uterine pain; and the lochial discharge was more than usually abundant.

June 3d.—She was examined with the speculum. The vagina was very red and congested, and contained pus. The cervix was voluminous, not very hard, and presented an ulceration as large as a half-crown. The ulceration had a florid fungous surface, but did not present the pulpy appearance which characterized it during pregnancy. She had still the old pains in the back and in the hypogastric and ovarian regions, and an abundant yellow discharge; appetite bad; tongue white; feels very weak. The ulceration was touched with the nitrate of silver, injections, with a solution of alum prescribed, and a saline mixture; light diet; rest in the recumbent position.

This, the usual treatment which I pursue in such cases, was persevered in during the month, the ulcerated surface being regularly cauterized once a week with nitrate of silver or the acid nitrate of mercury. The menses returned at the beginning of the month, and lasted four days. Their manifestation was attended with considerable pain. Towards the latter part of June, she had an attack of diarrhoea, then very prevalent, which proved obstinate.

July 31st.—The ulceration was healed; the cervix was still more voluminous than natural, but soft throughout. On opening the lips

of the os, and examining its cavity in a good light, there was still seen, however, vivid redness of the internal mucous membrane lining it, which was touched, for the last time, with the nitrate of silver. Slight white leucorrhœa only. The vaginal mucous membrane was of a deep-red color, the body of the uterus rather voluminous, the breasts large, the areola prominent. She had not menstruated since the beginning of June, and was probably pregnant. She stated that she had never been so well since her marriage; she ate and slept well; had no headache, and felt strong. Six weeks later I again examined this patient instrumentally, and found the cervix and its cavity perfectly sound and healthy. There were no morbid phenomena, local or general. The pregnancy was then manifest. It continued to progress favorably; she had no aches or pains, no vaginal discharge, and continued well throughout its course; very different to what she had been in any of her previous pregnancies. At the full period she was safely delivered of a healthy child, and has since done very well, remaining perfectly free from uterine symptoms.

*Remarks.*—The subject of the above narrative presented, previous to marriage, the peculiar susceptibility of the uterine functions which I have so often noticed. The menses appeared late, and were at first irregular, and occasionally painful. She was at times subject to whites. After marriage she miscarried in the third month of her first pregnancy, without any appreciable cause. From that time symptoms of inflammation of the uterine neck appear to have been present; a yellow leucorrhœal discharge, pains in the back, and in the ovarian and hypogastric regions, with general falling-off in the health. These symptoms persisted during the three next pregnancies, which all terminated by miscarriage in the sixth or seventh month, gradually becoming more intense in each. When I first saw her, she was suffering from the same symptoms which had on former occasions immediately preceded the abortion. The cause of these symptoms became at once apparent on the discovery of the extensive ulcerative inflammation which existed in the lower segment of the uterus. Notwithstanding the most prompt and careful treatment, I did not succeed in preventing the early occurrence of abortion. Nor was I surprised to fail in the attempt. The extent and intensity of the local inflammatory disease were so great, that it is only singular that the development of the uterus and of the contained fœtus could have proceeded so far.

The existence of the ulcerative disease does not appear to have exercised any great influence over the labor, which was easy. She was, however, rather long in rallying, and suffered more from uterine pain subsequently than is usually the case. When once the abortion had taken place, and the uterus had returned to its normal size, or thereabouts, the case became an ordinary one of ulcerative inflammation of the cervix, and was treated accordingly, with the usual success. This woman evinced a great susceptibility to conceive; for before the



cure could be considered perfect, she became pregnant for the sixth time.

It will have been remarked that the inflammatory hypertrophy of the cervix, which was considerable, all but completely subsided under treatment resorted to subsequently to delivery. This fortunate result I attribute partly to the fact of the previous pregnancies having prevented the hypertrophied cervix from acquiring that hardness of tissue which is so often met with in cases of chronic disease apart from the pregnant state.

### CASE VIII.

*Ulcerative Inflammation of the Neck of the Uterus recognized in the First Stage of Pregnancy; Expulsion, at the Third Month, of a Morbid Ovum, or Mole; ultimate Recovery.*

On the 23d of June, 1846, I was consulted for leucorrhœa, at the Western General Dispensary, by Mrs. T——, a young married woman, pale, thin, and sickly-looking, aged twenty-seven. She menstruated at fifteen, and was regularly unwell until she married, at three-and-twenty. The menstrual flux usually lasted four days, was sometimes attended with pain in the back, and was preceded and followed by a slight white discharge; but she was always free from these symptoms during the interval of menstruation, and her general health was good.

She became pregnant immediately after marriage, and continued to enjoy good health during her pregnancy. The labor was tolerably easy, but she says that part of the placenta was retained in utero for three weeks, and she was confined to her bed for nearly a month, ill, but able to nurse. From that time forward she had a yellow discharge, and pain in the back. These symptoms persisted during the nine months she nursed, as also after the return of the menses, which took place, without the usual pain, soon after she had weaned her child. This she had been induced to do early, from excessive weakness. Seventeen months after her confinement she again became pregnant. During this pregnancy she was very ill; she had constant sickness, bearing-down, and pain in the back and ovarian region, and was so weak she could scarcely stand. The labor was easy: she nursed this child thirteen months, although in a wretched state of health all the time. The yellow discharge, the pain in the back and lower abdominal regions persisted, and she became gradually weaker and more emaciated. After weaning, the menses appeared for a time or two, but have now missed twice. She suffers great pain in the lumbar, hypogastric, and ovarian regions; has considerable bearing-down, and an abundant yellow discharge, often streaked with blood. She is pallid and emaciated, so weak that she can scarcely walk; the tongue is white, no appetite, bowels confined; sleeps tolerably well, has no headache.

By digital examination, I found the cervix soft, fungous, volumin-

ous, rather anteverted; the os open; the fundus of the uterus low in the pelvis; and rather large, as in the first stage of pregnancy. The speculum showed the vagina to be red, congested, tender, containing a great deal of pus; the cervix was anteverted, presenting a large fungous ulceration, covered with pus and dipping into the cavity of the os. The cervix was attained with difficulty, owing to its partial anteversion, and to a rather narrow and constricted state of the vaginal outlet.

The treatment adopted consisted in periodical cauterization with the nitrate of silver; astringent vaginal injections; mild saline purgatives; light diet without stimulants; rest in the recumbent posture.

Under the above remedial means, the local inflammation soon began to subside, and the ulceration to heal. The pains diminished in intensity, the leucorrhœa became much less profuse, the tongue cleaner, the appetite better, the bowels regular, and the general debility less marked. At the latter end of July, the ulceration had two-thirds healed, when flooding came on, and after lasting four days, notwithstanding the means used (opium, mineral acids, and cold drinks), ended in the expulsion of what was evidently a diseased ovum. The membranes formed a sac about the size of the fist, filled with coagulated blood, in which, however, I could find no trace of the foetus.

The patient rallied rapidly, and after a month's interval, at the end of August, I was able to continue the treatment. I found the ulceration just as I had left it, except that it appeared smaller. This was owing, no doubt, more to the cervix having naturally diminished in size, after the expulsion of the contents of the uterus, than to the process of cicatrization having advanced. The same treatment was pursued, with some slight variations in the medicinal agents, with rapid improvement in the state of the patient. In the course of a few weeks, the sore healed externally—there being merely a relic of ulceration in the cavity of the cervix—the leucorrhœal discharge ceased, the pains in the back all but disappeared, and the general health improved in a marked manner. In this stage of the treatment, the patient ceased to come to me at the dispensary, and I have since lost sight of her. Owing to the narrowness of the vaginal outlet, to which I have alluded, the use of the speculum was always attended with some pain; and this probably induced her, finding her health so much improved, to discontinue treatment. There was then, however, so little disease remaining, that Nature, it may be presumed, completed the cure.

*Remarks.*—In this case we find that decided symptoms of inflammation of the uterine neck followed the first labor, produced perhaps by the retention of part of the placenta. From the nature of the symptoms, which persisted from that time forward—viz., yellow vaginal discharge, and pains in the back and side, it is very likely that ulceration existed even thus early. The subsequent pregnancy was laborious, owing, no doubt, to the existence of chronic inflammatory

disease of the cervix; and subsequently, the uterine symptoms became still more prominent. Their existence did not, however, prevent conception again taking place, for she was about two months gone in her third pregnancy when I first saw her. The inflammatory ulceration of the cervix had, in a great measure, subsided, and partial cicatrization had already taken place, when flooding set in, and abortion ensued about the end of the third month. As the ovum was merely a diseased mass, the abortion, in this instance, can scarcely be attributed directly to the inflammation of the uterine neck. Indirectly, however, the inflammation was the cause of the abortion, as it occasioned the early death of the foetal germ, and the formation of a "mole," instead of a healthy ovum.

This case, therefore, illustrates one of the modes in which inflammatory disease of the cervix uteri reacts on the product of conception. I firmly believe, as I have stated, that a very large proportion of the abortions which occur in the early months of pregnancy from diseased ova and placenta, as well as those which are preceded by flooding and death of the foetus, are in reality the result of inflammatory disease of the neck of the uterus.

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## CHAPTER VIII.

### INFLAMMATION, ULCERATION, AND INDURATION OF THE NECK OF THE UTERUS DURING AND AFTER ABORTION AND PARTURITION.

ITS CONNECTION WITH RIGIDITY OF THE OS DURING LABOR; WITH LACERATION AND ABRASION OF THE CERVIX; WITH FLOODING; AND WITH THE MORBID SYMPTOMS THAT FOLLOW NATURAL AND DIFFICULT LABOR.

THE study of inflammation, with and without ulceration and induration of the neck of the uterus during and after abortion and labor, throws very considerable light on the morbid phenomena which often characterize these conditions. Indeed, the facts which I have to lay before my readers are calculated completely to alter existing ideas respecting the pathology and treatment of many of the morbid manifestations of the puerperal state.

A mere inflammatory ulceration, even when extensive, if unaccompanied by induration, does not appear to modify, to any considerable extent, the phenomena of labor. Its presence seems to be only indicated by slight hemorrhage, and occasionally by a greater amount of uterine pain than previously experienced by the patient if she has



had other confinements. Induration, on the other hand, is seldom met with when the female reaches the full term of pregnancy, owing, as I have stated, to the indurated and hypertrophied cervix nearly always softening, melting, as it were, under the influence of the progressive development of the uterine tissues which takes place during pregnancy.

Inflammatory induration and enlargement of the uterine neck may, however, exist during both premature and normal parturition. In abortions it is frequently met with, the indurated tissues not having had time to soften when the foetus is expelled.

Whether complicating an abortion, a premature confinement, or a natural labor, this form of rigidity of the uterine neck is a most untoward event. The uterine neck dilates with the greatest difficulty, owing to the change in its structure, the muscular fibres being bound down by the hypertrophied cellular tissue in which they are imbedded. Indeed, in some cases which I have seen, the hypertrophy and consequent rigidity were so great that it is a matter of surprise that the cervix should eventually have dilated by the sole efforts of nature. In abortions the expulsion of the foetus may be retarded for days by this cause; and as the hemorrhage generally continues until the foetus be expelled, the patient is gradually reduced to a state of extreme anemia. For many years now since I have ascertained that inflammatory hypertrophy of the cervix thus frequently exists as a complication of abortion I have looked for it, and have met with it in nearly all the cases of very severe flooding during abortion which I have witnessed. Sooner or later, however, the indurated neck has always appeared to me to give way sufficiently to allow of the passage of the ovum or of the foetus.

When this state of the cervix exists it is easily recognized by the finger of one who is accustomed to distinguish these forms of uterine disease, although the accoucheur whose touch has not been educated with the assistance of the eye usually fails to recognize the morbid enlargement, and mistakes the case for one of simple rigidity of the os uteri. When the inflammatory induration and hypertrophy of the cervix do not give way as pregnancy progresses, and they are still considerable when labor commences, the patient is subject to some risk. The uterine contractions are so violent, so incessant, and, for a long period, so totally inefficient, that rupture of the uterus may be feared; indeed, many of the cases of rupture that are recorded have, no doubt, taken place under these circumstances. At each uterine contraction the indurated cervix is pushed down towards the vulva like a fleshy mass, without any progress being made in its dilatation.

In one case which I attended a female presented this form of enlargement and induration of the uterine neck in the ninth month of her pregnancy: she was thirty-six hours in continued labor before the os began to dilate. The cervix, in the form of a fleshy tumor the size of a fist, was pressed down to the vulva by each pain. The pelvis being roomy, impaction did not take place, and the indurated tis-

sues gave way at last, the os dilating sufficiently to allow the passage of the child. This, indeed, has always occurred in the cases I have seen, however protracted may have been the resistance which the diseased tissues have offered. This patient had had several previous confinements, all of which had been prompt and natural. On inquiry I found that she had been suffering from the usual symptoms of inflammatory ulceration of the cervix since her last labor, which had occurred some years previously.

In these cases, the dilatation of the indurated neck, however, does not always occur easily and regularly. Sometimes the cervix is not so much dilated as burst open, and then the lacerations, radiating from the centre, divide it into segments, which can be traced both with the finger and the eye, at a subsequent period. Thus it is that the foundation is laid for still more severe disease. We must recollect, however, that laceration of the cervix does not only take place when the cervix is indurated, but that it may also occur when it is quite healthy, during the most natural confinement. This I have found to occur most frequently in very rapid labors, when the pains are severe and prolonged, and the dilatation of the os uteri takes place very rapidly.

Instrumental and difficult labor is very frequently accompanied by laceration of the neck of the uterus in the absence of any morbid state. This is satisfactorily proved by the great frequency of inflammatory disease of the cervix after confinements of this description. In such cases the cervix generally presents deep fissures, caused by the lacerations. Fissures of this description are more especially observed when turning has been resorted to, and the hand of the accoucheur has been passed through the os before its full dilatation. These lacerations compromise the substance of the cervix, dividing it more or less deeply into segments or lobes. In some instances, as I have elsewhere stated, the mucous membrane lining the cavity of the cervix is lacerated and bruised during labor, even when the substance of the cervix remains entire.

When the cervix is thus lacerated or contused, there is sometimes rather more blood than usual lost after the expulsion of the fetus. This, however, may not occur, and if it does, the cause is not recognized at the time. The lacerations or abrasions may heal in the course of a short period, under the influence of the reparative process set up in the uterus after labor. On the other hand, under the influence of a general febrile condition, or of local inflammation, and often from the operation of causes which it is impossible to appreciate, these lesions, whether slight or severe, do not heal, and thus a confirmed inflammatory ulceration of the cervix uteri becomes established.

Inflammatory ulcerations, originating in abortion or labor, unless accompanied by extensive lacerations, are generally at first small, and often limited to the cavity of the cervix, extending into it more or less deeply. Unless, therefore, the lips of the os be opened, and the cavity of the cervix be examined, the very existence of the ulcerated state of its mucous lining may be passed over unperceived, even when an

otherwise careful instrumental examination is made. I have repeatedly known this to occur. If the disease progresses, the ulceration creeps out of the os, and the external surface of the cervix becomes involved. In the cases in which the ulceration existed during pregnancy, not only the cervical cavity, but the cervix itself will generally be found inflamed and ulcerated from the first.

After parturition there may be a complete absence of any symptoms indicating local disease, whether the ulceration be small or large, and whether it be confined to the cavity of the cervix or not; especially if the patient is nursing and the menses are absent. When, however, the ulceration is extensive, and often when it is slight, there is generally a train of symptoms present which enables the practitioner to form a tolerably accurate surmise as to the existence of the uterine disease. Although very decided and significative, these symptoms have been hitherto overlooked, both by continental and by British accoucheurs.

The most prominent of all the symptoms occasioned by the presence of inflammatory ulceration of the cervix during the puerperal state and after abortion, is hemorrhage. Under ordinary circumstances the sanguinolent discharge which follows parturition soon becomes modified, and ceases in the course of a few days, being replaced by the ordinary lochial secretion. When there is ulceration, the flow of blood often continues, in greater or less quantity, for three, four, six, eight, or more weeks. The blood thus secreted may be pure, or it may be mixed with muco-pus. This hemorrhage generally resists the action of all the usual anti-hemorrhagic remedies, its continuance frequently producing excessive debility and anemia. When it ceases, it is sometimes replaced by a profuse purulent discharge. Or there may be no continuance of the hemorrhage, the flow of blood from the uterus stopping at the usual time, and the purulent discharge immediately following. This is sometimes the case even when there is an extensive ulcerated surface.

The pain experienced in the lower dorsal, lower hypogastric, and ovarian regions, is often very acute from the time of the confinement, much more so than after an ordinary labor, as the patient perceives if she has had other children. These pains are at first general, but they gradually become localized, and assume more and more the character which they usually present in this disease.

In decided cases, when the patient first attempts to rise and walk, she feels a sensation of weight and bearing-down, which, instead of diminishing, gradually increases. If the hemorrhage and purulent discharge are continued and abundant, and the uterine pains are very severe, several weeks often elapse before she is able to leave her bed; and when she does, she remains weak, languid, and is unable to make the slightest exertion.

In less decided cases, and sometimes even when there is extensive cervical disease, there are no symptoms present, at first, calculated to arrest attention. All goes on smoothly and naturally after the confinement, and as long as the patient is nursing, and is free from men-



stration. As soon, however, as the menses return the whole train of symptoms indicative of the local uterine disease make their appearance.

These facts are of extreme importance in connection with the pathological history of the puerperal state, and will, I trust, be borne in mind by all who read these pages. If so, a great amount of suffering will be spared to the unfortunate patients whose state I describe. The symptoms I have enumerated are very frequently met with after parturition and abortion, and as their true cause has not hitherto been recognized, the means of treatment at present adopted are totally inefficient. Thus, after months of suffering, chronic disease of the neck of the womb of a severe character is allowed to establish itself, and the health and constitution of the female are deeply injured. I have no hesitation in saying, that when hemorrhage continues after parturition for weeks beyond the usual time, there will *nearly always* be found some inflammatory and ulcerative lesion of the cervix, and that an instrumental examination is indispensable. When once the real nature of the disease is ascertained, the hemorrhage may, generally speaking, be all but immediately stopped by the cauterization of the ulcerated surface, from which it appears in these cases principally to proceed.

In the course of from four to ten weeks, when the inflammatory disease is left to itself, the hemorrhage seems to cease spontaneously, and the case lapses into one of an ordinary character. The cessation of the hemorrhage, is generally supposed to be the result of the remedies used, but is probably to be accounted for by the changes which have occurred in the anatomical state of the uterus. Rapid absorption has taken place, and the organ having gradually regained, at least to a certain extent, the condition which it presented before impregnation, it has become less liable to hemorrhagic action. It is more especially in these cases that the inflammation of the cervix propagates itself to the body of the uterus, and that the latter is found tender on pressure, larger than in the normal condition, and retroverted.

The presence of inflammatory disease of the cervix, however slight, often appears to arrest, independently of any diseased state of the body of the uterus, the natural process of absorption which occurs after parturition, before the uterus has regained its natural size and weight. Thus, instead of diminishing in weight until it has reached an ounce and a half, or two ounces, as it would do under normal circumstances, the uterus remains at three, four, or six ounces. This morbid size and weight of the organ is generally attended with displacement, mostly retroversion, and often keeps up hemorrhage. It may exist in a passive state, independently of any inflammatory condition of the body of the uterus itself, and be merely kept up by the presence of disease in the cervix. When the latter is removed, nature will often renew the interrupted process of absorption, and slowly restore the uterus to its natural size and position, without any special

treatment being resorted to, as we shall see when speaking of uterine displacements.

As I have elsewhere stated, the presence of inflammatory ulceration of the cervix during the first stage of the puerperal period, has appeared to me powerfully to predispose the patient to puerperal fever, and to abscess of the lateral ligaments. The uterus seems to retain a predisposition to inflammation in the puerperal state, even in the cases in which ulceration, having existed during pregnancy, has been cured before parturition occurred. I have met with repeated instances of puerperal fever under these circumstances, one of which, a fatal one, is narrated at page 155.

Inflammation, with or without ulceration of the cervix, is so commonly developed after abortion, that I always look for it when the patient does not rally, and presents the symptoms which I have above described. Indeed, I may safely say, that this form of uterine disease exists unsuspected in nine cases out of ten, in which are observed the hemorrhagic, febrile, and inflammatory accidents that so frequently follow abortion, and that often occasions so much anxiety and trouble to the medical attendant, as well as to the patient and her family. It is easy to understand, that in the first months of pregnancy, the cervix uteri, not having time to soften and expand, is more exposed to contusion, and even to laceration, than at a later stage.

In the preceding pages abortion has been principally alluded to as the cause of inflammatory disease of the cervix. We must not, however, forget that abortion itself, as we have seen, elsewhere, is very frequently caused by the existence of inflammation and ulceration of the cervix, developed spontaneously, or under the influence of other causes. This, indeed, is so much the case, that when abortion occurs without any adequate reason, and especially when several successive abortions take place, we are quite authorized in suspecting the existence of ulcerative disease of the cervix uteri.

The two following cases will illustrate the effects produced in the puerperal state by the existence of inflammatory ulceration of the uterine neck.

#### CASE IX.

*Abortion at an early Period, preceded for some Months by Symptoms indicating Ulceration of the Uterine Neck, and followed for Two Months by uncontrollable Flooding; extensive Ulcerative Inflammation recognized and treated; rapid Recovery.*

On the 6th of June, 1846, I was consulted, at the request of her ordinary medical attendant, by Mrs. L—, a young married lady, aged twenty-two, who had been suffering from continued flooding ever since a miscarriage, which had occurred two months previously. On inquiry, I elicited the following particulars: Of strong and robust constitution, she had enjoyed excellent health until her marriage,

which took place at the age of nineteen; menstruated at fifteen, the catamenia had always appeared regularly and easily. She soon became pregnant, but miscarried, without any known cause, at three months; and again, shortly afterwards, at two months. She then became pregnant for the third time, and was delivered of a full-grown child eight months ago. During her pregnancy she was very well; the labor was easy. She nursed her child for two months, when it died. The menses subsequently returned, but were attended with a great deal of pain, and this continued to be the case; she had also a yellow leucorrhœal discharge, and slight pain in the back and ovarian regions. Four months ago she again became pregnant, and miscarried two months afterwards, without any assignable cause. This miscarriage was much more painful and tedious than the previous ones, and the flooding greater. She remained nearly a month in bed under medical care, constantly losing blood, more or less, notwithstanding the most varied and energetic treatment. On the slightest exertion, the quantity of blood lost became considerable. When I saw her, she was very thin, pale, and weak; pulse small and quick, tongue white, no appetite, great cephalalgia, bowels constipated, rest bad. She had severe pain in the lower part of the back, in the left inguinal and in the hypogastric regions. These pains were but slightly increased by pressure, and the abdomen was indolent to the hand, except just over the pubis, where pressure was attended with a little pain. On examining digitally I found the vagina lax, and very moist; the cervix low, voluminous, soft, and presenting a spongy surface in nearly its entire extent; the os uteri was open, so as to admit half the first phalanx of the index. The body of the uterus appeared rather larger than normal, and slightly sensitive on pressure. The speculum disclosed the vagina livid, and filled with blood, or a mixture of blood and pus. On wiping the blood and sanies off the cervix, which was not effected without difficulty, I discovered a fungous ulcerated surface, of the size of a half-crown, from which blood oozed on the slightest touch. This state of the cervix at once explained the inefficacy of the treatment that had been resorted to in order to restrain the flooding, viz., opiates, ergot of rye, mineral acids, acetate of lead, administered internally, and cold applied externally.

*Treatment.*—The following day I freely cauterized the entire ulcerated surface with the solid nitrate of silver, carrying the caustic into the cavity of the os, and prescribed tepid milk-and-water vaginal injections, tepid hip-baths, rest in bed, light diet, no stimulants, a saline mixture, and a mild aperient.

10th.—There has been no return of hemorrhage since the cauterization, but there is still an abundant sanious discharge. The cauterization was followed by a little pain, which almost entirely disappeared in the course of the day. The local pains are nearly the same, as also the general state; she feels, however, a little better since the hemorrhage has stopped. On again using the speculum, I found no blood in the vagina, and I was consequently able to get a better view of the



ulceration of the cervix. It appeared rather less fungous and livid than before, but was still unhealthy, bleeding at the slightest touch. After wiping its surface, I cauterized it freely with the acid nitrate of mercury. Little pain was felt at the time, or for several hours after; but towards evening, most intense pains set in, principally in the back and in the left side, and also, but with less intensity, in the hypogastric region. They were, the patient stated, as bad as those of labor. I had recommended a warm hip-bath and warm-water vaginal injections to be used, in case severe pains should come on. This was done, but without any mitigation in their intensity; and I was sent for. I found the patient in a state of extreme suffering, but without any febrile symptoms; the abdomen was indolent, and pressure on the hypogastrium not more painful than previous to the cauterization. I ordered a linseed poultice to be applied to the hypogastric region, and fifteen minims of laudanum to be taken in camphor julep. Under the influence of these measures, the pains gradually subsided, and she was able to sleep during the latter part of the night. The following morning they had become very bearable, the pulse and skin were natural, and the abdomen indolent on pressure. The patient was told to resume the vaginal injections, the hip-baths, &c.

17th.—There has been no return of the severe suffering which followed the cauterization; but she still experiences the old pains in the back, hypogastrium, and ovarian regions. For the last two or three days, the vaginal discharge has ceased to be sanguinolent, and is merely purulent. She has been allowed latterly to sit up on the sofa, and feels much better since the continued discharge of blood has ceased. The cervix appears rather less voluminous to the touch; the vagina has lost the very congested hue which it presented at first; the ulceration of the cervix is of a florid red hue, and covered with healthy pus. Cauterization with the nitrate of silver; same general and local treatment. This time the cauterization was not followed by any unusual degree of pain. The discharge was sanguinolent for a few days, and then again became purulent.

The hemorrhage was arrested by the cauterizations, and at my next examination I found that cicatrization had fairly commenced. It continued to progress rapidly under the influence of periodical cauterization, and of appropriate local and general treatment. The external ulceration—that which existed on the surface of the cervix and around the os—was healed within a month from its first discovery; and in the course of a few weeks more, that which penetrated within the cavity of the os was also well. At the beginning of August, within two months from the commencement of the treatment, the ulceration was perfectly healed, both inside and outside the os. The cervix had nearly regained its natural volume and softness, and the uterus had risen to its normal position in the pelvis. The vagina was healthy. There was no leucorrhoeal discharge, and all the local pains had disappeared. The general condition of the patient had improved as rapidly as the local disease. She could walk easily, and without

bearing-down or fatigue. The lips and cheeks had again assumed the hue of health; the head was free from pain; in a word, she was rapidly recovering her former health and spirits. I ordered her to the sea-side; and a month later, I heard that she had had no return whatever of the uterine symptoms, and that she had much benefited by the change of air.

*Remarks.*—This case presents several points of interest, which we will successively examine. The cause of the first two miscarriages cannot be even presumed, in the absence of any data on the subject. The first time the attention of the patient was directed to the existence of symptoms indicating uterine disease was a month or two after the death of a child, of which she had been naturally delivered at the full time. This child died two months after her confinement. From that period until she again became pregnant, some months later, she presented the symptoms which almost invariably indicate inflammatory disease of the uterine neck—a yellow purulent leucorrhœal discharge, painful menstruation, and permanent ovarian and lumbar pains. She was very unwell during the first two months of this pregnancy, and then miscarried, the abortion being followed by obstinate and repeated flooding, and by a very marked increase in all the uterine symptoms. When I saw her the flooding and other symptoms had resisted every therapeutic means previously employed. On examining the state of the uterine organs I found a fungous ulceration of the cervix, freely pouring out blood from its surface, which was clearly the source of the hemorrhage and the cause of the other uterine symptoms. From the previous history of the case I consider it most evident that the inflammatory ulceration had existed since the last confinement, and that it was the cause of the abortion, although only discovered two months after the latter had taken place. The inefficacy of the therapeutic agents resorted to in this and in similar cases is at once explained when we know their true nature. What can opium, mineral acids, ergot of rye, &c., do to arrest hemorrhage originating in an unhealthy fungous sore? The immediate cessation of the hemorrhage under the influence of cauterization is worthy of notice. The application of the caustic to the ulcer was followed by very intense pain—a rather unusual circumstance, which may be attributed, in this instance, to the congestion that followed the sudden stoppage of the hemorrhage.

The recovery of this patient was very rapid and complete, considering the extent of the local disease. This we must attribute, in a great measure, to her youth, and to natural vigor of constitution. Very much depends, as we have stated, in the treatment of these forms of uterine disease, as in that of all chronic affections, on the constipation and vital energy of the patients. Some seem merely to want the appropriate treatment to recover rapidly and thoroughly. Others, less favorably endowed by nature, or weakened by long-continued suffering, and by sympathetic reaction, scarcely respond to the most diligent

and enlightened treatment, get well with the greatest difficulty, and seem peculiarly exposed to relapse.

#### CASE X.

*Abortion at Three Months, preceded and followed by severe Uterine Symptoms.*

March 2, 1846, I was consulted by Mrs. H——, a young married lady, aged twenty-three, residing in the south of England. Her history was as follows:—

Of rather delicate constitution, although generally enjoying good health, she menstruated at fourteen. She continued to be regularly and easily unwell every month, during four or five days, until she married, at one-and-twenty. She then immediately became pregnant, and was confined at the full time, of a stillborn child. The labor was exceedingly tedious and difficult, and she was a long time in rallying, having been confined to her room four or five weeks. From that time she has never been well, and has always had a leucorrhœal discharge, and lumbar, ovarian, and hypogastric pains. The menses did not appear for three months, and then less freely than formerly, and accompanied by great pain. This afterwards continued to be the case. Nine or ten months after her confinement she again became pregnant, and miscarried, at the end of three months, about ten weeks previous to my being consulted. During the time she was pregnant she was very ill, all the uterine symptoms enumerated being exacerbated. The miscarriage was preceded and followed by obstinate and long-continued flooding, and she was obliged to keep her bed for several weeks. From that time forward, notwithstanding the most careful and continued medical management, she had been, she stated, in a most wretched state. She had not been examined locally, but her medical attendant, suspecting the existence of some serious uterine disease, advised her to consult me. Although of rather a full habit, she appeared very weak and debilitated; the lips were pale, the skin sallow, the tongue white; she complained of insomnia, headache, palpitations, cardialgia, and constipation; she had a profuse yellow leucorrhœal discharge, often tinged with blood, severe lumbar, hypogastric, and ovarian pains, and a distressing sensation of bearing-down. On examining digitally I found the vagina moist and relaxed, the cervix low, voluminous, and hypertrophied, but not much indurated; the os open, so as to admit the end of the finger, and surrounded by a soft, velvety surface, which extended over the entire cervix. The uterus itself was enlarged, and painful on pressure. The perineum was deeply torn. The lower half of the vulva, the perineum, and the nates adjoining the perineum, were red, and painful to the touch, and the seat of severe erythematous inflammation, evidently produced by the acrid nature of the vaginal discharge; the vagina was congested, and contained a great quantity of bloody muco-pus. The cervix, of a



deep florid hue, presented a large, irritable-looking ulceration, the size of a half-crown.

The treatment consisted in tepid hip-baths night and morning; emollient, and subsequently astringent, vaginal injections; periodical cauterization of the ulcerated surface, mild saline aperients, and subsequently tonics, light diet, and rest in the horizontal position. Under the influence of these means she gradually but slowly improved. The emollient agents resorted to, the hip-baths, and injections soon subdued all external inflammation; the case then progressed like that first related, without anything unusual occurring. The general health of this patient, however, rallied much slower than that of the former one; it had been much more deeply affected, and the constitution was evidently weaker.

On the 24th of May, nearly three months after I began to attend her, although immeasurably better, she was still weak and delicate. The uterine disease was, however, altogether subdued; the leucorrhœal discharge had disappeared, the vagina was healthy, the cervix had nearly recovered its natural volume, and had quite ascended into its normal position in the pelvis, the ulceration was healed, the lumbar and ovarian pains, and the sensation of bearing-down, were no longer experienced, or at least only in a very trifling degree after fatigue, and she could walk with ease and without pain. The general health had also vastly improved; the dyspeptic symptoms had almost entirely disappeared; she could sleep and eat well; the bowels acted regularly, and the skin had lost its sallow hue, although it did not yet present the color of health.

Mrs. H—— then returned home. I afterwards heard that her health had become more and more consolidated, and that she had experienced no return whatever of the uterine symptoms. The menses were easy and natural, as before her first pregnancy.

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## CHAPTER IX.

### INFLAMMATION OF THE NECK OF THE UTERUS IN ADVANCED LIFE, AFTER THE CESSATION OF MENSTRUATION.

Inflammation of the uterus is occasionally met with in women advanced in life, who have long ceased to menstruate, notwithstanding the low vitality of the uterine system at this stage of female existence. Uterine inflammation at this period of life, however, almost invariably assumes the shape of inflammation, with or without ulceration of the mucous membrane covering the lower segment or neck of the organ, and appears, generally speaking, to be the lingering remains of inflammatory disease present at the time the menses ceased. In some

cases, however, I have known it evidently to originate spontaneously, and in others it has occurred as the result of blennorrhagia, contracted late in life.

The atrophy of the uterine system, which physiologically follows the cessation of menstruation, exercises unquestionably a very salutary influence over any uterine inflammation which may then exist; many females recovering gradually, without treatment, under its influence, from the unrecognized uterine inflammation, which had for many years inexplicably rendered life a burden to them. Hence, I believe, the origin of the popular opinion, that if a female, previously in bad health, passes safely over the critical period of life, she may rally, and enjoy good health for the remainder of her existence. The forms of uterine disease which I have described in the preceding pages not having hitherto been recognized and treated, there must have been at all times a large floating population of females thus rendered confirmed invalids, confined to sofas and couches, stranded, as it were, on the shores of the stream of life, some of whom would reach this age, and be spontaneously cured in the way I describe. Indeed, it stands to reason, that if women so situated escape the dangers of accidental disease, and of cancerous degenerescence, the absence of the menstrual flux must materially change the pathological condition. The uterus being no longer subject to the periodical congestions which render its inflammations so difficult and so tedious to subdue, the disease in many cases gradually wears itself out, and thus a natural cure is obtained.

In some instances this desirable process of natural cure only partially takes place. The gradual atrophy of the uterus—now become a useless organ in the economy, which physiologically follows the meno-pause—is still called into play. It limits the morbid action, diminishes the size of the hypertrophied tissues, and partly heals the ulceration; but it has not the power completely to cure the disease. The latter still lingers on, giving rise, with more or less intensity, to the symptoms which are usually observed in this form of inflammation. The most constant and the most prominent, in most cases, is the pain in the sacrum, or lower part of the back. Pains in the ovarian regions, and in the hypogastrium, are occasionally complained of, but by no means so universally. The peculiar backache of uterine diseases has indeed appeared to me frequently more intense in women thus advanced in life than in younger persons; although the latter generally present much more extensive disease. Sometimes a leucorrhœal discharge is experienced by the patient, but not always. The ulceration being often small, and there being but little vaginitis, there is no great amount of muco-pus formed, and what little is secreted, is absorbed by the parietes of the vagina. As might be anticipated, the patient seldom experiences much bearing-down. The inflamed cervix, as well as the uterus itself, being more or less atrophied, the latter generally retains pretty nearly its normal position in the pelvis; not falling so much as in younger women in whom the neck of the uterus is often hypertrophied and heavier than natural.

On examining digitally and instrumentally, the cervix is generally found small, indurated, sometimes lobular, but in that case the lobules are regular and their divisions radiate towards the centre; the os is slightly open, and presents sometimes, but not always, within its contour, the velvety sensation of ulceration. The vagina is in some cases rather rosy and congested, whilst in others it presents the blanched appearance, peculiar to it in advanced life. To the eye, the cervix appears of a vivid red or of a livid hue, and when there is ulceration, the diseased surface generally, seems irritable and angry, the granulations are small, and there is scarcely ever any appearance of luxuriance or of fungosity about them. The cavity of the cervix is often closed at a short distance from the external orifice. These, the physical characters of inflammation of the cervix at an advanced period of life, are the same, however the disease may have originated. They are often accompanied by considerable sympathetic disorder of the general health, especially when the backache is very continued and severe.

I have found this form of inflammation much more intractable, and much more difficult to cure, than that which is met with in younger females. It may be that the very circumstance of the disease having withstood the influence of the changes that take place in the uterine system on the cessation of the menses, stamp it as of an intractable nature; or it may be, that chronic inflammation once established in a mucous membrane in a person advanced in life, has a greater tendency to resist treatment and to perpetuate itself, than it would have in a younger subject. Moreover, in some instances of this description the disease has evidently existed many years, ten, twenty, or more, in which case its very chronicity will account for its resisting treatment. Whatever the interpretation, the fact is certain. A limited amount of inflammation, or a small ulceration the size of a fourpenny piece, resting on an atrophied cervix, may resist the most energetic local and general treatment for several months, giving rise, at the same time, in some patients, to extreme pain in the back and sides.

The surgical treatment of ulcerative inflammation of the uterine neck in a person advanced in life illustrates in a striking manner this sluggish mode in which the vital processes are carried on at this stage of human existence. Thus, in early and middle life the film which is formed by the action of the solid nitrate of silver on the ulcerated mucous membrane of the cervix uteri separates, as we have seen, from the fourth to the fifth day. In a female who has numbered sixty winters, more or less, this same film does not separate until from the seventh to the tenth day, and the benefit derived is equally slow in its manifestation. This clinical fact is, no doubt, to be attributed entirely to the tardiness or sluggishness of the vital organic processes alluded to. The same tardiness is shown in the action of all the other vitality modifying surgical agencies resorted to in the treatment of chronic inflammatory disease.

Chronic inflammation of the neck of the uterus unattended with ulceration has, in my experience, shown itself of less frequent occur-



rence than inflammation with ulceration. It is equally tenacious, and equally difficult to remove, often requiring appliances of an energy out of all proportion with its apparent intensity or importance.

In these cases of chronic inflammatory disease, which have often lasted part of a lifetime, constitutional treatment alone is totally powerless to effect a cure, although of great use as an adjuvant to the local or surgical treatment.

The following cases will illustrate the peculiarities of this disease in advanced life. I have, however, frequently met with it in much older females than those whose histories are recorded. In one interesting case I was consulted respecting a lady, from the country, sixty-five years of age, who had ceased to menstruate twenty years before. She was deaf and very infirm, and those around her only suspected the existence of something wrong from the presence of a yellow vaginal discharge. The family medical attendant, being in doubt as to the nature of the case, brought her up to town to see me. On examination, I found the cervix extensively ulcerated, the ulceration being evidently of a purely inflammatory nature. This lady had had a large family thirty or forty years before, but her faculties were so obscured, that we could obtain little or no information from her respecting her uterine health since that time.

In another instance, an elderly lady, above sixty, presented extensive inflammatory ulceration of the cervix, which evidently dated from a miscarriage that occurred above thirty years previous to my seeing her. From that time she had never been free from uterine symptoms, which had rendered her life miserable, and the origin of which had never been suspected. She had been twice married, and had gone through the events of a long and checkered life as a confirmed uterine sufferer. She had ceased to menstruate for very many years. The ulceration only gave way, after several months' treatment, to the use of the solidified potassa cum calce. In this case there was no backache or local pain.

#### CASE XI.

*Slight Ulceration of the Cervix in a Person advanced in Life, healing after Five Months' Treatment.*

April 3, 1846.—Louisa L——, a tall, stout, robust woman, aged fifty-four, was addressed to me, at the Western Dispensary, by one of my colleagues, under whose care she had been for a short time. Menstruated at thirteen, she continued to be so regularly and easily until she married at twenty-three. She subsequently had eight children, the last at the age of forty-three, without ever suffering from any uterine symptom. Two years after her last confinement, and fourteen months after weaning her child, the catamenia stopped for five months during which time she was very unwell. They returned, and she continued to menstruate as usual, until about eighteen months ago. The show then became scanty, and she was seized with pains in the

back and in the hypogastric and inguinal regions. Shortly afterwards the menstrual functions ceased entirely, and the inguinal, hypogastric, and lumbar pains increased; she likewise experienced slight bearing-down and pain in congress. From that time the symptoms gradually became more severe, until the pain in the lumbar region was so great that she could scarcely sleep or lie; and this it was that induced her to apply for relief. She stated that she had never had any leucorrhœal discharge whatever; her general health had been much impaired during the previous twelve months; she had lost strength, and felt very ill; appetite bad, and bowels costive.

On examining digitally I found the cervix very high up, not voluminous, but hard; the os was open, and presented the velvety sensation of ulceration. On using the speculum the vagina appeared of a natural healthy hue; the cervix was not large, but of a vivid red color, and presented around the os an ulceration not larger than a fourpenny piece, which penetrated slightly into the cavity of the cervix. The redness of the surrounding tissues terminated rather abruptly before it reached the vagina, and appeared to be the vestige of former more extensive ulceration. The ulcerated surface was acutely sensible when touched with the forceps or probe; there was but little purulent secretion. On the sore being touched by the nitrate of silver, the agony became so great as to bring on nausea, and every pain she had before suffered from became instantly perceptible, with exaggerated intensity. Astringent injections and a saline mixture were prescribed and rest enjoined.

10th.—The pain of the cauterization, after persisting for the entire day, although much less intense, gradually subsided. Since then all the pains have been much less severe, and the bearing-down sensation has quite disappeared. The ulceration is less irritable, and the cauterization is by no means so painful as on the first occasion.

From this time the treatment was pursued on the same principle. The ulceration was cauterized every seven or eight days, either with the nitrate of silver or the acid nitrate of mercury, according to the appearance it presented, and to the effect produced. Astringent injections of various descriptions were also used, rest enjoined, and the general health attended to. It was nearly five months, however, before the small ulceration was healed. It soon lost all irritability of surface, and the inflammation of the surrounding surface subsided, the lumbar and hypogastric pains nearly entirely disappearing, but a small portion of the primitive ulceration long remained red and abraded, secreting pus, and refusing to heal.

*Remarks.*—In this case, a slight ulceration, unaccompanied by much adjoining irritation, resting on a cervix rather small than otherwise, occasioned severe pain and great constitutional reaction. Notwithstanding these apparently favorable features, it was only after the remedial measures resorted to had been persevered in for several months that the ulceration cicatrized, the inflammatory action having

been at last subdued. It is impossible to fix the origin of the disease, as during a long "uterine life" she only recollected having once had uterine symptoms before the cessation of the menses, and that was nine years previously. There may, however, have been some obscure chronic inflammatory action of the cervix in existence ever since that time, which only became apparent at the change of life. The application of the potassa fusa might have healed it sooner, but I was unwilling to resort to this agent, on account of the absence of hypertrophy and the very small size of the cervix.

### CASE XII.

*Inflammation and Ulceration of the Cervix of a person aged sixty-one, the result of Blennorrhagia.*

ON the 7th July, 1846, I was consulted by a lady, Mrs. M——, aged sixty-one, for a vaginal discharge, from which she had suffered, she stated, for two years. On inquiry, I ascertained that she was married early in life, had had several children, and had ceased to menstruate nine years previously. She had never labored under any uterine disease to her knowledge, or presented any uterine symptom, until two years ago, when her husband communicated to her a discharge under which he himself labored at the time. She retained the discharge for several months, without mentioning it to her medical attendant; when she did so, he merely ordered her medicinal agents. Under the influence of this treatment, the leucorrhœa diminished, and the heat and scalding on passing water, which she had at first experienced, disappeared. The vaginal discharge, however, although less, persisted, and great and continued pain in the lower part of the back set it, gradually becoming worse. Her general health, which had previously been very good, also failed her.

On examining digitally, I found the vagina healthy, the cervix small, very hard, and divided into three small radiated lobules; the uterus appeared also very small, and perfectly movable. The speculum showed the vagina to present the white blanched appearance which I have noticed as peculiar to age, except at its upper fifth, which was rather injected. The small lobular cervix was of a livid red, and was ulcerated over the greater part of its surface. The cavity of the os appeared quite obliterated. The tongue was white, appetite and rest bad, bowels costive.

The disease in this patient was treated, as in the former one, by periodical cauterization, astringent injections, rest, and attention to the general health; but it was not until six months afterwards that I could pronounce her quite cured. The cervix was then cicatrized, and had assumed the same blanched appearance as the surrounding tissues; all pains and discharge had disappeared, and the general health was very much improved.

*Remarks.*—The decided manner in which so limited an amount of



local disease will react on the functions of digestion, even in persons advanced in life, is worthy of notice. In the above case, the patient evidently contracted gonorrhoeal inflammation of the vagina, which not being subdued, became localized on the mucous membrane covering the cervix, and thus gave rise to the diseased state which I found. The disease was purely inflammatory, and consequently, although obstinate, eventually gave way to treatment.

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## CHAPTER X.

### INFLAMMATION OF THE VULVA, OF THE VULVO-VAGINAL GLAND, AND OF THE VAGINA.

ALTHOUGH inflammation of the vulva and of the vagina mostly co-exist, the difference which their anatomical structure presents considerably modifies their morbid manifestations; we shall therefore examine the disease separately in each of these regions.

Both vulvitis and vaginitis are generally considered to present themselves under two distinct forms: a purely inflammatory or non-specific form, and a specific or blennorrhagic form. The propriety of this distinction has been questioned by some modern authors; but whether a virulent contagious form of inflammation, distinct from simple inflammation, exist or not, it is certain that it is impossible to establish the distinction from a consideration of symptoms alone. After many years' careful study and investigation, I am yet unable to point out any certain data by which the difference can be recognized. I shall, therefore, first describe the disease as it occurs in the cases in which there is no suspicion of contagion, the inflammation being evidently spontaneous, and then briefly discuss the question at issue.

#### VULVITIS.

*Causes.*—As predisposing causes of inflammation of the vulva may be mentioned the peculiar delicacy and tenuity of the skin and mucous membrane that cover the organs which enter into its formation; their extreme vascularity and erectile character; the great number of sebaceous, mucous, and hair follicles which the vulva contains; its liability to physiological congestion under the influence of menstruation, of mental and of sexual emotions, and of other causes, favored as this congestion is by the vasculo-erectile structure already alluded to; and the existence of pregnancy and obesity. The influence of these various predisposing causes of disease has been very lucidly pointed out by M. Hugier, the learned Paris surgeon, in an admirable memoir on disease of the vulva, read a few years ago before

the Academy of Medicine.<sup>1</sup> In this valuable monograph, M. Huguier very correctly compares the vulva to the face, which presents nearly the same anatomical and physiological conditions, and points out, as a necessary corollary, the fact that the diseases of the vulva present the greatest similarity to those of the face.

As exciting causes of inflammation may be named all those agencies which are calculated to arrest the menstrual function or to morbidly increase the molimen hemorrhagicum that precedes, accompanies, and follows menstruation; acrid secretions from the uterus or vagina; marriage and parturition; over-exertion in walking in warm weather, especially in pregnant females, or in stout women, in whom the labia are loaded with fat and the follicular secretions abundant; normal and abnormal sexual stimulation, and all local irritations from whatever cause.

Inflammation of the vulva is met with at all periods of female life. It is not unfrequently observed in infants and children, as the result of cold; and occasionally with the latter in its most obstinate form, as the result of onanism; or it is developed spontaneously, owing to the morbid influence of a scrofulous cachectic constitution which predisposes to mucous membrane inflammation. It may complicate or follow scarlet fever, and no doubt this occurs much more frequently than is generally supposed.

The symptoms of vulvitis vary according to the anatomical seat of the inflammation. It may occupy only the proper tissue of the cutaneous and mucous membranes, or the mucous, sebaceous, or hair follicles, or all these structures simultaneously; and it may extend or not to the subjacent tissues. Moreover, the various forms of inflammation which are peculiar to the skin may be also met with at the vulva.

When the inflammation occupies the muco-cutaneous surfaces we find the vulva red, hot, congested, swollen, tender to the touch, and bathed with mucus at first, and subsequently with muco-pus. If it has extended to the cellulo-erectile tissue underneath, the labia and nymphæ often become enormously swollen, so as to present the form of large masses on each side of the vulvar orifice, which appears greatly enlarged. When this is the case purulent collections may form either in the free cellular tissue or in the larger mucous follicles, and especially in the vulvo-vaginal gland.

The numerous mucous follicles of the vulva are sometimes inflamed separately, or at least their inflammation becomes the prominent feature, that of the tissues in which they are imbedded being secondary. At first they present the appearance of numerous small hard specks of coarse sand disseminated over the muco-cutaneous surface. As inflammation progresses they often ulcerate, and then the parts are dotted over with small aphthous-looking sores, secreting muco-pus in abundance. This state of things is generally attended with consider-

<sup>1</sup> *Mémoire sur les appareils sécréteurs des Organes Genitaux externes de la Femme*, lu à l'Académie Nationale de Médecine. Mars, 1846. Paris. Baillière. 1850.

able inflammation and swelling of the surrounding parts, which are matted together by the purulent secretions, and present a very repulsive appearance.

Dr. Oldham has well described a chronic form of follicular inflammation occasionally met with, in which the inflammation principally attacks the mucous follicles of the nymphæ and of the vaginal orifice extending from the meatus to the lower commissure of the nymphæ, and seldom involving, to any extent, the external labia. The small aphthous ulcerations which they form at first sight rather resemble venereal sores. On a closer inspection, however, their purely inflammatory nature becomes evident. The presence of this chronic follicular inflammation is often attended with spasm of the constrictor vaginae, and consequent occlusion of the vaginal orifice. Thence extreme pain on any attempt at congress. This form of the disease is generally intractable to treatment. It may exist independently of any vaginal or uterine inflammation, but has proved in my practice mostly connected with such disease. Owing to the spasmodically constricted state of the vaginal orifice, it is very difficult satisfactorily to examine the vagina and neck of the uterus, either digitally or instrumentally.

Vulvar inflammation, especially in the chronic form, is frequently accompanied by intense irritation and itching. It may be general in the vulvar region, involving or not the clitoris, or it may be confined to the clitoric region alone. This symptom is a most distressing one, often destroying entirely the rest of the patient, and when carried to an extreme degree rendering her nearly frantic. She is induced, in spite of the strongest determination to the contrary, to rub the part affected, in order to allay the itching, and thus the inflammation is increased, while the local irritation is but temporarily relieved. I am convinced, indeed, that in a large proportion of the children and females in whom onanism exists as a habit, it has originated in this manner. The inflammation and irritation, if unchecked, gradually extend to the outer surface of the labia majora, and when they have reached this region the inflammation becomes more intolerable than ever. The patient sometimes rubs the part with a kind of fury until it be quite excoriated and covered with blood. When the inflammation has become chronic, and has reached this extent, the mucous folds of the labia majora and the nymphæ, and those which cover and surround the clitoris and the vestibule, assume a whitish or grayish color, and become thick and hypertrophied. The labia majora themselves may be several times their usual size, and present a very peculiar mottled appearance.

On a careful examination these chronic forms of vulvar inflammation will generally be found connected with extensive disease of the neck of the uterus, or of both the neck and body. This fact partly accounts for their extreme intractability to treatment, especially when it is directed to the vulvar element of the disease only, as is usually the case; when this occurs the disease of the uterine neck, being unrecognized and unchecked, keeps up the external inflammation.



The vulva, especially at its lower commissure in the vicinity of the nymphæ, is sometimes the seat of most obstinate indolent inflammatory ulcerations the size of a shilling or half-crown; the patient suffering but little pain, is sometimes scarcely cognizant of their presence. They have been well described by M. Boys de Loury and M. Laurés, the only authors, so far as I am aware, who have alluded to them. When I first met with an ulceration of this kind I thought it a degenerated chancre. But I afterwards concluded that it was not venereal from its resisting a course of mercury combined with cauterization. I now believe, with M. Boys de Loury, that these ulcers are purely inflammatory. They are certainly most rebellious to treatment. The authors I have mentioned have met with cases at St. Lazare which neither the red-hot cautery, nor potassa fusa, nor any other agent, local or general, could modify or heal. I had a case at the Western Dispensary in which the sore resisted all these active means for four months, and then suddenly healed in a week, after having been for some time left to itself, whilst the patient was under general treatment. Its thus healing was, no doubt, partly the result of the favorable modification of vitality impressed upon it by the previous local treatment.

The sebaceous and hair follicles are generally inflamed simultaneously with the mucous follicles, but they may be affected separately. The inflammation usually attacks one region only of the vulva, but it may be general. They also form hard red elevations or papillæ, only to be distinguished from inflamed mucous follicles by their being rather larger and harder, by the presence of the hair in the centre, when it is the hair follicles that are diseased, and by the fact that the inflammation having a greater tendency to assume a chronic character, they do not ulcerate either so readily or so soon. In the course of a few days, if the inflammation does not assume an entirely chronic form, a drop of pus forms at the apex of the small papilla, and on its bursting spontaneously or through the patient's abrading it, a small sore is formed, which may heal immediately or remain open. In the early stage of inflammation a copious secretion of sebaceous matter often takes place, giving rise to a white, creamy, oily film, which forms over the diseased surfaces, and is rapidly reproduced if wiped off. This sebaceous secretion is sometimes poured out in great abundance. As in inflammation of the mucous follicles, if many are simultaneously inflamed, the proper tissue of the vulva is generally inflamed simultaneously, and then presents the characteristics already described, the region affected becoming greatly swollen and enlarged.

The inflammatory action may pass into the chronic form, or be chronic from the first. When this is the case, the diseased sebaceous follicle may assume the same character, and pass through the same phases as occur in the face. One or more chronically inflamed follicles, presenting a red tubercular appearance, are found disseminated over the vulva, remain some weeks in an indolent state, suppurating or not, and then gradually disappear, to be succeeded by others. Owing to

the extreme sensibility of the vulva, they often occasion considerable distress to the patient. They are generally looked upon as small boils, or furunculi.

I have known in women presenting habitually a very erectile state of the vulvar tissues, a varicose vein to give way underneath the skin, and a small tumor or hæmatocele to form, presenting the external characters of an indolent inflammatory mass, varying in size from a nut to a pigeon's egg. After in vain trying antiphlogistic treatment, an incision with the lancet has shown the presumed inflammatory tumor to be merely a mass of dark clots of coagulated blood. In one instance, a tumor of this description proceeded from the vagina posteriorly, its origin being by a large basis about an inch above the lower commissure of the vulva. It was semi-solid, about the size and form of a pear, and was three-fourths protruded from the vagina. It had followed a confinement, and was supposed to be a polypus by the medical practitioner who sent the lady to me from the country. Owing to the semi-fluid consistency of the tumor, I was in doubt as to its real nature. But on making an exploratory puncture with a small trocar I discovered that it contained blood. I then made a large incision, emptied the tumor of the clots and thick fluid blood which it contained, touched the internal walls with the nitrate of silver, and kept the orifice open. The envelope inflamed and then rapidly shrivelled up, so as eventually to leave scarcely a trace of its existence.

Occasionally, under the influence of inflammation, or from some other cause, the duct of one or more sebaceous follicles becomes obliterated, and the sebaceous matter collecting behind, a steatomatous cyst, or tumor, is formed, varying from the size of a millet seed to that of a nut, or even larger. The proper tissue of the sebaceous follicle may also become hypertrophied, so as to form a small tumor, protruding from the surface. M. Huguier has very accurately described this condition, and has given to it the name of *exdermoptosis*. Generally speaking, several hypertrophied follicles are observed in the same patient. They are found on the cutaneous surfaces only, appear to be formed by the deeper-seated follicles, and are covered by the superficial layers of the skin which they push before them. As they enlarge, they form a small indolent tumor, of the color of the skin, at first the size of a pin's head, but which may increase to that of a pea. When it has attained this size, it sometimes becomes pedunculated, so as to adhere to the skin by a pedicle only, of variable thickness; in the centre of the small tumor may always be seen a slight depression, the orifice of the follicle, from which a certain amount of sebaceous matter may generally be expressed. These characters distinguish it from syphilitical vegetations and mucous pustules, with which the hypertrophied follicles are occasionally confounded. They may remain indolent for any length of time, or become inflamed, soften, ulcerate, and thus be wholly or partially destroyed, leaving a small depression in the skin, or they may wither, so that a minute wrinkled tumor alone remains, as evidence of the disease.

The vulva may present all the special forms of cutaneous inflammation, such as erythema, herpes, ecthyma, psoriasis, &c., offering the usual characters of such affections.

M. Huguier has described at considerable length (*Mémoires de l'Académie*, vol. xiv., 1849) a fortunately rare form of disease, which he has only met with in hospital practice, to which he gives the name of *esthiomene*, and which he assimilates to *lupus* in the face. As in the face, this fearful malady presents itself under several forms. It may be *serpiginous* or extended in surface, *perforating* or extending in depth, or *hypertrophic*, that is, be attended with hypertrophy of the surrounding tissues. These three varieties of the disease often exist in the same individual. It generally commences on the cutaneous surface of the labia majora, and is principally observed in adult females, although M. Huguier has met with an instance of it in a scrofulous girl only twelve years of age, who had also *lupus* of the face. The superficial or *serpiginous* form is characterized by small livid tubercles, or indurations, lying on thickened integument, and presenting at their base, or in their vicinity, where the skin is exposed to the air, grayish epidermic scales, as on the face. These tubercles generally accompany or surround the other more serious forms of the disease. They soften and ulcerate, forming small ulcerations, which may extend, destroy the entire thickness of the skin, healing on one side, as they progress on the other, and leaving thin, uneven, shining cicatrices, of a whitish or reddish color. The course of the disease is essentially chronic; it may last for years; is attended with little or no pain or constitutional disturbance in its early stages, and does not then interfere with the accomplishment of the functions of the organs. In the *perforating* form, the ulceration extends in depth, so as to produce a frightful destruction of parts, sometimes passing between the urethra and the pubis, or the rectum and the pubis, so as to partially separate the vagina from its attachments, and extending to the vagina, anus, and rectum. When this is the case, the parietes of these organs become thickened, and form folds and duplicatures, separated by deep sulci, ulcerated or not. When the *hypertrophic* element is added, the parts attacked, and the surrounding tissues, become enormously enlarged, and give to the external organs of generation, and to the entire vulvo-anal region, a most frightful appearance. It then constitutes a mass of hypertrophied tissues, thrown irregularly into thick folds, covered with tubercles and ulcerations, in which all trace of the natural conformation of the parts, or of the natural outlets of these organs, is lost. When disease is carried to this extent, a very considerable amount of local distress is necessarily experienced; the patient falls into a state of *marasmus*, and sinks exhausted by diarrhoea and constitutional irritation. The disease, as in the face, is very rebellious to treatment. The characters given above will distinguish it from the various forms of vulvar inflammation, and from cancer, with which it has no doubt hitherto been confounded.



*Inflammation of the Vulvo-vaginal Gland.*—It is also to M. Huguier that we are indebted for the first full and complete account of inflammation of this gland. It is contained in the work to which I have already repeatedly alluded, and is an important contribution to the pathology of the uterine organs.

Inflammation of the vulvo-vaginal gland, the anatomy of which is given at page 34, is principally met with between the ages of eighteen and thirty. This we might naturally conclude would be the case, as the gland is physiologically destined to secrete mucus for the purpose of lubrication, with reference to the sexual functions, which are most developed at that period of female life. Women of a nervous or lymphatic temperament, in whom sexual feelings appear, as a rule, more intense than in those of a robust and plethoric, or sanguineous temperament, are the most liable to be attacked by this form of glandular disease. Menstruation may also be considered a powerful predisposing cause, and sedentary occupations of all kinds, from their tending to occasion local congestion. The attack of inflammation itself, however, is mostly induced by positive local irritation.

The influence of these causes, both predisposing and immediate, sometimes produce a state of exaggerated vitality of the gland followed by hypersecretion of mucus, which can scarcely be considered a diseased condition, although it verges on it, predisposes to it, and is often the immediate precursor of inflammation. This state is characterized by the constant flow, under the influence of the slightest exciting cause, of so large a quantity of glairy mucus, as to prove a source of annoyance to the patient. Pressure exercised on the gland, enlarged, distended, and easily perceptible to the touch, will itself expel a certain amount of mucus, either transparent or turbid. Sometimes, under the influence of dreams, the glandular fluid will be secreted in great quantity during sleep in the night, thus simulating nocturnal seminal emissions in the male. This state of hypersecretion of the vulvo-vaginal gland may exist as a complication of uterine disease, or it may be present for months, or even for years, as a constitutional condition, generally in connection with exaggerated sexual tendency without inflammation setting in.

Inflammation of the vulvo-vaginal gland may exist on one or both sides. It may occupy the mucous membrane lining the duct, and present itself under a catarrhal, and general chronic form; or it may attack the substance of the gland, in which case it is generally acute and attended with the formation of abscess. In the catarrhal form of inflammation, which M. Huguier designates purulent hypersecretion, the gland secretes a grayish, yellowish white, or semi-purulent fluid, and may or may not be swollen, and tender to the touch. There is generally slight pain and itching in the region of the gland, but there may be no uneasy sensation whatever. The mucous purulent discharge may last for months, and when recognized is generally supposed to proceed from the fistulous opening of a vulvar abscess. The anatomical position of the orifice of the inflamed duct from which the

pus issues is sufficient to establish its origin. When it thus persists, it is generally kept up by the presence of blennorrhagic or other inflammatory disease of the vulva, or by the continued action of the local irritation which so generally give rise to it. Should the orifice of the duct become obliterated, the muco-pus collects and forms a small, soft, fluctuating tumor, varying from the size of a pea to that of a small walnut, and situated superficially at the lower orifice of the vagina. It is felt immediately underneath the mucous membrane, which it distends visibly to the eye. The muco-pus may dilate the obliterated duct, and force its way out by the natural channel; but it more usually escapes by an artificial opening. All trace of tumefaction then disappears, and it is often difficult at first to say whence the matter has escaped.

When it is the substance of the gland itself that is the seat of inflammation and suppuration, the tumor which it forms is found lying deeper, between the ascending branch of the ischium and the orifice of the vagina. It is generally painful, the pain irradiating into the surrounding tissues and organs, and it may become as large as a walnut. When this is the case, the tumefaction distends the labium, and becomes very evident to the eye. Matter forms rapidly in the course of three or four days, and by the tenth or twelfth the purulent collection, if left to itself, has generally opened an artificial passage externally. The pus once evacuated, cicatrization mostly takes place in the course of four or five days. Sometimes the matter forces its way through the duct, and then evacuation of the pus is slower, often continuing in an interrupted manner for some weeks. The duct may be involved in the inflammation, and be also distended by pus. When this is the case, and an artificial opening occurs, and sometimes when the inflammation is confined to the duct, the latter may ulcerate freely, and, on healing, be diminished in length, a very evident oval depression marking its new orifice.

Whether the duct, or the gland, or both have been the seat of inflammation, the cicatrization of the artificial opening is not always definitive. Muco-pus or pus will accumulate again and again; each time an exacerbation, or return of inflammatory action, taking place, and continuing until it has again found a vent. The same circumstance occurs with abscesses found in the substance of the labia, but much less frequently. In the latter affection, it is the adventitious pyogenic membrane lining the abscess which remains inflamed, and reproduces pus. In the former, it is the mucous membrane that naturally lines the ducts of the gland that remains the seat of the disease. In either instance, the only means to prevent these abscesses continually forming, is to open them freely, and to make them heal, as it were, by the second intention, as we shall see when speaking of the treatment of vulvar inflammation.

## VAGINITIS.

Inflammation of the vagina, considered apart from contagion, may be occasioned by all the causes which have been enumerated as producing vulvitis. It is, moreover, very frequently found to complicate inflammatory disease of the body or neck of the uterus, and especially of the latter. Indeed, I should say that it is principally in connection with inflammatory and ulcerative conditions of the cervix uteri, that simple non-contagious vaginitis is met with in the chronic form.

Vaginitis, like vulvitis, both acute and chronic, is observed at all ages. It not unfrequently attacks very young children, and when existing in them as a result of a scrofulous constitution, and of a tendency to inflammation of the mucous membranes, may be very difficult to effectually subdue. Like vulvitis, it sometimes attacks children during, or after, eruptive fevers.

Acute vaginitis is attended with pain, swelling, and redness of the vaginal canal. The patient feels a sensation of heat and fulness in the vagina; and if a digital examination be made, the canal is found swollen and tender to the touch. On bringing the vaginal mucous membrane into view by means of the speculum, should the pain and swelling not be too great to admit of its use, it is found of a vivid red color, and the rugæ appear more developed and prominent than in the normal state. At first there is an arrest of secretion, as in the first stage of inflammation in mucous membranes generally, but after a day or two a more or less abundant secretion sets in, at first serous, and then purulent, and of a yellowish or greenish color. As soon as this secretion is fairly established, the heat, swelling, fulness, and pain, diminish considerably.

The development of these local symptoms is seldom accompanied by much general febrile reaction, unless the tissues underneath the mucous membrane be involved; in that case, the inflammation may assume a phlegmonous form, and purulent collections form which empty into the vagina, or at the vulva; considerable febrile reaction being experienced. Fortunately, however, this is a very rare form of vaginitis, and is seldom met with except in cases in which the vagina has been contused, lacerated, or otherwise injured, in severe, prolonged, or instrumental labor.

The inflammation in vaginitis may be general, or it may be limited to one region, either to the upper or to the lower part of the vagina. When it is thus limited to a portion of the vagina only, it is nearly always chronic, and connected with disease of the cervix or vulva, of which it is only a symptom and the extension.

The amount of fluid secreted by the inflamed surfaces varies greatly. In some it is slight, and formed by a mixture of the white mucus formed in the upper part of the vagina, and of the yellow matter, the product of the acute inflammatory action; in others it is very abundant, thick, and of a yellow or greenish color.



Acute vaginitis appears to run its course in from ten to twenty or thirty days, according to the intensity of the inflammation, and to the treatment employed. If, in addition to general treatment, local means are carefully used, an attack of acute vaginitis may generally be subdued in from a few days to a week or two; but if general treatment alone is resorted to, or the local treatment be inefficient, several weeks may elapse before the inflammation subsides, or it may pass into the chronic stage, extending to the mucous membrane which covers the cervix. Inflammation of the vagina, like inflammation of the uterus and vulva, is very liable to be periodically aggravated by the menstrual congestion; thence a tendency to its perpetuation, if it does not at once subside, or give way to the means of treatment resorted to. When the slightest amount of inflammation is left previous to menstruation, the molimen hemorrhagicum which then exists seems to fan it into a flame, developing anew inflammatory action.

This unfavorable influence of menstruation on the course of vaginitis is more especially observed in the chronic form of the disease, and constitutes one of the great difficulties of its treatment—not only does menstruation exaggerate existing inflammation, but it often reproduces it after each menstrual epoch, when all evidence of inflammatory action has so far disappeared that the most careful ocular investigation can detect no evidences of disease beyond a slightly congested state of the vaginal mucous membrane. Chronic vaginitis, as I have stated, is generally connected with disease of the cervix uteri, of which it may either be the cause or the symptom. In the former case, the vaginitis is mostly general; in the latter it is mostly confined to the upper third or half of the vagina, and is evidently the result of the extension of the inflammatory atmosphere from the neck or body of the uterus to the vagina. In this case, the non-inflamed part of the vagina is nearly always more or less congested.

Chronic vaginitis, general or partial, may last indefinitely, for years, like chronic inflammation of all other mucous surfaces, giving rise to a constant secretion of muco-pus, and varying in intensity according to the epoch of the month, to the state of the health, and to the social and hygienic position of the patient. In the course of time, it often passes into a mere mucoso-purulent flux. Its existence in this chronic form is a source of general debility and weakness, but by no means to the extent that is supposed by most authors; the sympathetic connection between the vagina and the rest of the economy being slight, when compared with that which exists between the uterus and the system in general. When the health of a patient laboring under chronic vaginitis suffers greatly, it will generally be found, on examination, that there is also disease of the neck or body of the uterus, or of the ovaries.

Inflammation of the vagina may assume the follicular form, that is, the mucous follicles may inflame and ulcerate, forming small aphthous sores. This species of inflammation, however, is rare, and when met

with is generally limited to the lower portion of the vagina. It is seldom, also, that more than a few isolated follicles are ulcerated.

A form of follicular disease has latterly been described on the continent as peculiar to pregnancy, and as characterized by enlargement, or hypertrophy, of the mucous follicles of the vaginal mucous membrane. I do not think the disease in question is of frequent occurrence, and am inclined to look upon the conditions described as often physiological, and merely the result of the natural development of the follicular organs, owing to the existence of pregnancy.

Pseudo-membranes may form on the inflamed vagina, but their presence is of very rare occurrence. They present the same characters as on the cervix and on other mucous membranes.

It is a singular pathological fact that, although the existence of a specific and contagious form of vaginitis be generally admitted, yet it is difficult, if not impossible, as we have seen, to point out any decided characteristic by which it may be distinguished from simple vaginitis. Like those who have preceded me, I am unable to indicate satisfactorily any absolute means of distinguishing between simple inflammation of the vagina and blennorrhagic inflammation, although I believe that the difference does exist. This seems proved to me by the fact, that simple inflammation of the vulva and vagina, the form which is so constantly found co-existing with disease of the neck of the uterus, and the origin of which is evidently inflammatory, does not appear, as a rule, to communicate gonorrhœa to the male. I sometimes hear of the husbands of my patients suffering from slight irritation, but seldom of their having positive urethral inflammation with purulent discharge. The instances of the kind which I meet with—instances in which, although the wife's disease appears to be of a purely inflammatory nature, yet the husband is obliged to live separate, under penalty of being himself attacked by urethritis—are, indeed, so rare, that I can only look upon them as exceptional. For many years my opportunities of observing uterine and vaginal disease have been very great in the moral classes of society, and I have been greatly struck to find, as a rule, the husbands of my uterine patients living with their wives in apparent immunity; although many of the latter are, and have been, suffering for months or years from vaginitis of a more or less severe character. It may be that they become acclimatized, as it were, to their wives' local state of disease, or it may be that I do not hear all that takes place; but it is even more probable that the immunity is real, and the result of the non-contagion of purely inflammatory vaginal discharge under ordinary circumstances. I say under ordinary circumstances, because, even admitting that such is the case, we can easily understand that a morbid secretion, innocuous when brought into contact with a healthy frame, may, on the other hand, produce violent inflammation, if the economy is below par, or if any urethral irritation, caused by lithatic urine or other causes, previously exists; or if the patient is debilitated by excesses of any kind.

To appreciate all the bearings of the question, the above facts must

be compared with the results furnished by the medical history of the non-moral part of the population. I, like others, find that unmarried men who associate casually with women of loose character, with women who do not offer moral guarantees, are continually attacked with severe and obstinate urethral inflammation. Does not this fact tend to prove that they are exposed to a contagious element in the one case that does not obtain in the other; although the physical evidences of inflammation are identically the same to the eye in both instances?

Although, thus believing in the existence of a contagious and of a non-contagious form of vaginitis, I am bound to confess that the only difference that I can see between the two is, that vaginitis, apparently contracted by contagion—or blennorrhagia—appears to be more acute than ordinary vaginitis, that there is a greater quantity of pus secreted, greater redness, congestion, and swelling of the mucous membrane, that the inflammatory action has a greater tendency to spread to the urethra, and that it is very much more intractable to treatment. These conditions, merely implying degrees of inflammatory violence, do not evidently constitute a distinction as to morbid characteristics. It is, however, I repeat, a remarkable fact that simple vaginitis in the immoral portion of the population should usually assume the severer form of the disease, and be readily communicated, whereas with the moral part of the community it should usually affect the milder form and be seldom communicated.

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## CHAPTER XI.

### INFLAMMATION OF THE UTERINE APPENDAGES — OVARITIS, ACUTE, SUBACUTE, AND CHRONIC — INFLAMMATION AND ABSCESS OF THE UTERINE APPENDAGES—UTERINE HEMATOCELE, OR PERI-UTERINE HEMORRHAGE.

THE annexed uterine organs, ovaries, Fallopian tubes, and lateral ligaments, as also the cellular tissue comprised between the folds of the latter, and behind, before, and on the sides of the uterus, are not unfrequently the seat of acute or chronic inflammation. The ovaries are more especially liable to be thus attacked. In the acute form of inflammation, the symptoms presented are so very similar, in whichever of these regions it is situated, that it is generally very difficult to localize the disease. Moreover, the inflammation frequently, indeed, generally, extends from one to the other, so as to compromise them all. When pus forms, as a result of such inflammation, the pathological course of events is all but identically the same, whether the pus appears primitively in the ovaries, in the Fallopian tubes, or in the peri-uterine cellular tissue.



The formation of pus in the annexed uterine organs, is only the occasional result of non-puerperal ovaritis, whereas it may be considered the ordinary termination of cellular peri-uterine inflammation. Such being the case, I purpose to examine separately ovarian and Fallopian inflammation, but to connect the consideration of abscess in the uterine appendages, wherever it may originate, with the history of peri-uterine cellular inflammation.

#### ACUTE OVARITIS.

Acute inflammation of the ovary, although more frequently met with than acute metritis, is not a complaint of very common occurrence. The inflammation may originate in the fibro-cellular parenchyma of the ovary, or in one or more Graafian vesicles. It may be limited to either of these structures, or it may attack both simultaneously, or extend from one to the other. This distinction, however, in the localization of the disease, is more pathological than practical, as the symptoms are the same in all cases.

In the attacks of acute metritis, or of metro-peritonitis, which occur in the puerperal condition, the ovaries and lateral ligaments are nearly always the seat of acute inflammation. When the case terminates fatally the ovaries are often found greatly enlarged, vascularized, and softened in their texture. They may contain pus, either disseminated throughout their tissue or collected in one or several foci. These lesions form, in such cases, a feature only of those which the fatal metro-peritonitis has occasioned; the uterus, Fallopian tubes, peri-uterine cellular tissue, and pelvic peritoneum, being likewise the seat of acute inflammation. Thence the multitudinous morbid lesions which characterize metro-peritonitis, when it thus involves all the uterine annexed organs—collections of pus in the inflamed Fallopian tubes, in the cellular tissue between the peritoneal folds, and in the proximity of the uterus, peritoneal exudations, false membranes, pelvic adhesions, &c.

Ovaritis in the non-puerperal state may also extend to the surrounding tissues, and give rise to peritonitis, accompanied by all or part of the above lesions, and terminate fatally, in the same way, by the mere extension of the inflammation to the peritoneum and adjoining tissues. Such, however, is by no means the ordinary result. It may, and generally does, pass through all its phases without involving the peritoneum, or only involving it slightly; and it may thus terminate by resolution, or by passing into the chronic state.

The causes of acute ovaritis are so identically the same as those of acute metritis that it would be useless to repeat them. I will merely remark that, apart from parturition, the sudden suppression of menstruation is perhaps the most frequent of all. Some authors have considered that the slight inflammation that is supposed to accompany the monthly bursting of the envelopes of the ovule, and the expulsion of the latter, may be considered a frequent cause of ovarian inflamma-

tion. It is difficult, however, to admit that a physiological act which occurs every month during the entire uterine life of woman can be often accompanied by actual inflammation, and I feel disposed, along with my late friend M. Aran, to reject this cause, at least as one of frequent occurrence. Inflammation of Graafian vesicles, or of ovarian cysts, is, no, doubt, however, often a cause of acute ovaritis.

The symptoms of acute ovaritis when the uterus, the peritoneum, and the inclosed tissues and organs participate in the inflammation, are lost in those of the metro-peritonitis. We could at most suspect that one or both the ovaries were specially the seat of inflammation, from the pain in the ovarian regions being extreme, and the swelling localized and very great.

When the inflammation is limited to the ovary the symptoms, local and general, are much the same as in acute metritis, only the pain, felt principally in the ovarian regions, may be accompanied by perceptible swelling and heat in that region, and by extreme tenderness on pressure. The examination per vaginam may be so painful as to be effected with difficulty. If, however, it can be carried out, the swollen and tumefied ovary may generally be felt at the side of the uterus, separated from the latter by a groove, which the finger sometimes, but not always, recognizes. The ovary is often displaced, lying lower than natural in the pelvis, so as to be felt with ease through the vagina, being laterally in contact with the upper cervical region, or lying posteriorly, behind the uterus, between it and the rectum. Much information may frequently be obtained by a digital examination per anum. The finger thus passes higher in the pelvic cavity, and may reach the ovary, enlarged and prolapsed, when it fails to do so per vaginam.

In acute ovaritis there is generally a considerable amount of febrile action from the onset, which may be preceded by lassitude, headache, and rigors. This febrile action often becomes considerable. These symptoms may increase gradually in intensity during from three to five or six days. Generally speaking, the peritoneal covering of the ovary becomes slightly involved. Even in mild cases, exudations, false membranes form on it, and adhesions may thus become established between the ovary and the surrounding organs; adhesions which often become permanent, and lead to sterility in after life. This limited extension of inflammation to the peritoneum tends, when it occurs, to prolong the acute period of the attack. If it does not become more general, but subsides along with the ovarian inflammation, the disease may gradually terminate by resolution. Not unfrequently, however, it passes into the chronic stage, the ovary remaining enlarged, vascularized, indurated, and displaced. In this case small collections of matter, disseminated or united, existing either in the cellulo-fibrous parenchyma, or in the developed Graafian vesicles, may remain stationary for weeks or months. These purulent collections are either gradually absorbed or reproduce the inflammatory action under the acute or subacute form; or they may extend, destroy the entire tissue of the ovary, and form an abscess, which either bursts

into the peritoneum, occasioning fatal peritonitis, or gives rise to one of those abscesses of the lateral ligaments which we shall have presently to study.

There are various cases on record, several of which have been observed by M. Aran, in which the Fallopian tubes have been alone, or all but alone, inflamed, and in which, after death, from other causes, collections of pus have been found inclosed in their canal. Such cases must be borne in mind, although during life they clearly cannot be distinguished from cases of inflammation of the ovaries, or of the peri-uterine cellular tissue.

#### SUBACUTE OVARITIS.

The term subacute ovaritis has been adopted by recent writers, and especially by Dr. Tilt,<sup>1</sup> to indicate conditions of low inflammatory action in the ovaries, essentially chronic in their mode of manifestation, which they consider to be of frequent occurrence and to exercise great influence on the functions over which the ovaries preside, those of menstruation and impregnation, and on the health generally. The extreme importance which these writers attach to ovarian symptoms and lesions in interpreting the morbid conditions of the uterine system, has evidently originated in psychological prepossessions. It may be traced to the great progress made during the last twenty years in the physiology of the female organs of generation. The discovery of the fact that menstruation, and all the healthy phenomena connected with it, are completely subordinate to the existence and monthly maturation of ova in the ovaries, has led to the idea that morbid menstrual conditions must be also subordinate, in the great majority of cases, to morbid ovarian conditions, and principally to subacute ovaritis. This mode of reasoning, perfectly logical in theory, is apparently substantiated in practice by the clinical fact that, in cases of morbid menstruation, complicating uterine ailment—and, indeed, even in cases of uterine ailment, without morbid menstruation—there is all but constantly tenderness, pain, and fulness in the ovarian regions, and principally in the left. These are the symptoms which are, *erroneously*, supposed to, all but invariably, indicate the existence of subacute ovaritis.

That subacute ovaritis exists as a decided and distinct form of ovarian inflammation is undeniable, but its frequency has been greatly exaggerated, and its importance in the production of deranged menstrual conditions, of dysmenorrhœa, menorrhagia, amenorrhœa, and of sterility and abortion, considered generally, has been much overrated. That such should be the case will be understood when I mention that actual clinical experience shows that the symptoms given as indicating the positive existence of subacute ovaritis may be, and very frequently are, met with as mere sympathetic conditions, depending on the pre-

<sup>1</sup> See Dr. Tilt's work on Diseases of Menstruation and Ovarian Inflammation (Churchill, 1850), in which the doctrines alluded to are very ably and fully exposed.



sence of disease in the uterus or its neck, and not on the existence of disease in the ovaries themselves. This opinion is substantiated by anatomical facts, and by the laws of general pathology, as well as by clinical experience.

If we consider the structure of the ovary apart from the pregnant condition, when, like the uterus, it is exceptionally vitalized, we find that it is formed by a dense fibro-cellular parenchyma, containing the Graafian vesicles in various stages of development during the menstrual life of the female. This structure is not likely, pathologically speaking, to very frequently become the seat of subacute inflammation. Throughout the economy it is the mucous and serous membranes which are most frequently attacked by inflammation, especially by subacute and chronic inflammation; parenchymatous organs, especially those of a dense slightly vascular structure, enjoying comparative immunity. This is certainly the case with the uterus itself, the mucous membrane of which is the most frequent seat of uterine inflammatory action, as I have repeatedly pointed out throughout the course of this work. The ovaries *have no mucous membrane*, and their structure, in the non-puerperal state, as I have stated, is dense, fibro-cellular, and non-vascular. The uterus, on the contrary, has a mucous membrane. Thus the uterus is *predestined*, by its anatomical structure, and by the laws of general pathology, to be very much more frequently the seat of inflammatory disease than the ovaries, which, the Graafian vesicles apart, are purely parenchymatous. Thence it is that we find, in practice, the ovaries more frequently manifesting sympathetic disturbance, owing to the reaction of uterine disease, than we find the uterus manifesting sympathetic disturbance owing to the reaction of ovarian disease. The ovaries would, no doubt, be even less frequently the seat of inflammatory disease than they are, were it not for the presence of the Graafian vesicles. These organs are often the point of departure of disease in these organs, as already stated, of inflammatory disease of cysts, &c.

If we turn to clinical experience we arrive at similar results. Subacute ovaritis is said to be characterized by pains in the ovarian regions, extending round the loins or down the thighs; by a sense of fulness, of swelling, and of heat in the same regions; by slight enlargement of the ovary, as detected by the actual digital examination of the patient through the vagina or rectum; by the disturbance of the uterine functions, and by the general sympathetic constitutional derangement of health, which has been described in the previous chapters, as depending on uterine disease considered generally.

That these symptoms, taken together, necessarily indicate subacute or chronic ovaritis, as do also those furnished by the actual digital examination of the patient even when they alone are present, is undeniable. That the functional and rational symptoms may also be the result of such disease, even when there is no *attainable* physical evidence of its existence, is also certain. Nevertheless, I am fully prepared to state, that in nineteen cases out of twenty in which, apart from all

febrile symptoms, the ovarian regions are the seat of deep, dull, aching, continuous pain, and appear externally tender and rather swollen, there is no actual ovarian disease whatever, and that these symptoms merely indicate a state of sympathetic irritation, the result of some uterine lesion. Why it should be so, it is difficult to say; why an inflammatory ulceration, or any other inflammatory lesion of the body or neck of the uterus, should give rise to pain and tenderness, not so much in the region where the disease actually exists, as in the right or left ovary, sometimes in both, but generally in the left, I am unable satisfactorily to explain. But the fact is a clinical one, which daily experience confirms. What proves that the ovarian pains are, in the great majority of these cases, merely symptomatic, and not the result of actual ovarian disease, is that if you leave the ovaries entirely alone, and only treat the uterine affection which is generally found on examination to co-exist, they usually give way as soon as the latter is cured. If, on the contrary, you merely treat the patient for ovaritis, and neither examine nor treat the womb, they generally either continue indefinitely, or return in a short time, even if modified temporarily by the means resorted to. I so much look upon ovarian pain and tenderness as a mere routine symptom of ordinary uterine disease, that when once I have ascertained by a careful examination that there is no decided ovarian enlargement and tenderness, and that there is uterine disease, I generally give myself no more concern about the ovarian symptoms than I should about the tongue of a patient suffering from stomach derangement. I depend upon their subsiding with the uterine complaint, of which they are merely the indication.

I am frequently able also to test, clinically, the correctness of the above views. Many young females for whom I am consulted, who present confirmed functional uterine symptoms which in my own mind I from the first attribute to uterine disease, offer the ovarian pains and tenderness in a very marked manner. Inasmuch as I fully admit that with them all the symptoms *may* be the result of subacute ovaritis, I seldom consider myself warranted, unless under peculiar circumstances, in making any exploration of the uterine organs until I have resorted to the treatment indicated for ovaritis. All but invariably, however, after blistering and leeching the ovarian regions, and treating the patient generally for some months, I find myself compelled to ascertain the condition of the uterus, owing to the persistence of the symptoms, both ovarian and other, and then find uterine disease, the cure of which at once removes the ovarian symptoms.

Thus does experience prove the fallacy of an apparently rational theory. Thus does it show that ovarian pains, fulness and tenderness must, in a majority of cases, be considered merely sympathetic evidences of uterine disease, and not the symptoms of ovarian inflammation.

Although professing that a large proportion of the cases in which the symptoms attributed to subacute and chronic ovaritis are cases of other disease, in which the ovary is merely sympathetically irritated,

merely the seat of neuralgic pain and tenderness, I fully admit, as I have already stated, that these same symptoms are occasionally produced by the diseased states in question. That such is the case becomes certain when the symptoms enumerated are present, in the absence of uterine lesions, or if enlargement and tenderness of the ovary can be ascertained to exist by careful vaginal or rectal digital examination, or by the combination of the two, the double touch of M. Recamier. The forefinger of the right hand, passed carefully by the side of the cervix uteri, so as to press up the vaginal cul de sac in the direction of the lateral ligament and ovary, or pass into the rectum, along the side of the uterus, whilst the fingers of the left hand are pressed over the ovarian region externally, will often detect very trifling enlargement of the ovary, especially if it has prolapsed into the pelvic cavity, as we have seen that it sometimes does, and if it is also tender to the touch.

#### CHRONIC OVARITIS.

The general symptoms occasioned by chronic inflammation of the ovary, inflamed, enlarged, and indurated, are pretty nearly the same as those to which chronic uterine inflammatory disease gives rise, only they are more obscure and chronic. It is, therefore, unnecessary to enumerate them. We have the same dull aching pain, the same tendency to monthly exacerbations under the influence of menstruation. I am persuaded, however, that considerable ovarian disease, of a low inflammatory nature, may take place—as in other parenchymatous organs, without much local pain or tenderness being present, merely reacting on the menstrual function, giving rise most frequently to amenorrhœa, or to irregular, scanty, and inefficient menstruation, and deteriorating imperceptibly the general health. Moreover, as the ovaries are two in number, even when one is obliterated, as it were, by morbid changes, if the other remains healthy, and ova are regularly matured in its structure, all the phenomena of normal menstruation may take place under its single influence. This we frequently see in the early stages of ovarian cystic disease. The continued existence of chronic ovarian disease is, no doubt, often the explanation of the non-recovery of patients who have been cured of uterine affections from which they had been long suffering, but who do not afterwards rally, as anticipated, and thus falsify the expectations entertained of their restoration to health.

That chronic inflammatory morbid conditions of the ovaries, giving rise to thickening, induration, enlargement, cystic tumors, &c., and probably modifying health, are often so obscure during life as not to be recognized, is proved by the frequency with which they are found in patients who die of other diseases in the general hospitals. This fact ought to induce the practitioner to scrutinize very minutely the state of these organs, in obscure forms of ill-health, in which, in the absence of uterine or evident ovarian symptoms, the menstrual func-



tions are deficient, and the general health out of order, or in which sterility exists without any apparent cause.

The undeniable clinical fact, "that in the majority of cases of uterine ailment, with or without ovarian symptoms, the uterus, and not the ovaries, is the real seat of actual disease," must not make us lose sight of the physiological and pathological consensus between the uterus and the ovaries. This consensus acts both from the ovaries to the uterus, and from the uterus to the ovaries, and is so great that it is all but impossible for the one to be diseased without the other sympathetically suffering more or less.

Another most important feature in connection with chronic ovaritis is, that its existence is a permanent danger to the patient. From one moment to another, it may become acute under the influence of some accidental stimulation. Pus may thus form, with all the dangers thereto pertaining. Or the inflammation may extend to the peritoneum, and give rise to fatal peritonitis. The post-mortem examinations in large hospitals show that many cases of acute and fatal peritonitis have thus their origin in chronic ovarian disease.

Suppuration of the substance of the ovary, whether the result of acute or chronic inflammation, is of more frequent occurrence than suppuration of the substance of the uterus, owing to the ovary containing in its structure a much greater amount of cellular tissue. When suppuration does occur, the inflammatory action generally extends itself to the cellular tissue contained between the folds of the lateral ligament which envelop the ovary; and the ovarian abscess thus becomes lost in the more extensive phlegmonous tumor which is formed. As the history of the ovarian abscess is from that moment identical with that of phlegmonous inflammation of the peri-uterine cellular tissue, and of the lateral ligaments generally, I shall include it in the description of this morbid condition which I now purpose giving, and of which it is no doubt frequently the origin or point of departure.

#### INFLAMMATION AND ABSCESS OF THE UTERINE APPENDAGES CONSIDERED GENERALLY.

From the writings of Paulus Ægineta, and others, it is evident that pelvic inflammation and abscess in the female, their symptoms and sequelæ, were known to the ancients. Not only does Paulus Ægineta distinctly mention the manner in which pus formed in the pelvic cavity finds its way to the exterior by the perforation of the rectum, vagina, or bladder, but he also enters into many curious details respecting treatment, describing the process for opening the abscess by the vagina—an operation which has only latterly been revived. The ancients do not appear, however, to have had a correct idea of the origin and nature of these abscesses, which they describe as abscesses of the uterus. They evidently thought that the uterus itself was the

seat of inflammation, and consequently the source whence the pus came.

The Arabians merely copied the classical writers on this as on most other subjects connected with uterine pathology, making no addition to the information contained in the works of the latter.

In the seventeenth and eighteenth centuries, when a revival of midwifery and of uterine pathology began to take place, the attention of practitioners was directed to this important class of diseases by Guillemeau, Mauriceau, and more especially by Puzos. The two former thought, with the ancients, that the abscesses proceeded from the uterus, but Puzos recognized the fact of their generally originating in the lateral ligaments of that organ. His more correct views respecting pelvic inflammation in the female were, however, disfigured by a fanciful theory as to its origin, which he attributed to the "metastatic deposit of milk." This singular theory was, for a long period, adopted by all who wrote on the subject, amongst whom may be named Planchon, Van-Swieten, Levret, Raulin, Antoine Petit, Gastelier, &c., and was only dispelled by the accurate anatomical investigations which characterize the commencement of the present century.

Pelvic inflammation, both in the male and female, has attracted much attention in France during the last thirty years, and its history has been elucidated by various writers, and more especially by Dance, Husson, Boivin, Baudelocque, Menière, Andral, Dupuytren, Grisolles, Velpeau, Bourdon, and M. Marechal de Calvi. This last writer published, in 1844, an interesting monograph, which contains a good analysis of the existing state of knowledge on the Continent, with reference to pelvic inflammation generally.

In our own country, pelvic inflammation—especially that form of the disease which develops itself in the uterine appendages, and which has hitherto been universally connected with the puerperal state—has attracted much less notice. It is scarcely, if at all, alluded to in the principal monographs on the diseases of females, those, for instance, of Gooch, Sir Charles Clarke, Churchill, Lever, Ashwell, &c., although isolated cases of inflammation and abscess of the ovaries and Fallopian tubes are described and referred to. Nor does our periodical literature contain much information on the subject, with the exception, however, of the interesting articles of Dr. Doherty and Dr. Churchill, in the *Dublin Medical Journal*, 1843-44, on "Inflammation and Abscess of the Uterine Appendages," and the paper published in 1844 by Dr. Lever, in *Guy's Hospital Reports*, under the head of "Cases of Pelvic Inflammation occurring after Delivery."

Although of late years so much has been written abroad by French pathologists on phlegmonous inflammation of the uterine appendages, there is still an ample field for investigation. Indeed, I may safely say (1848), that notwithstanding all the efforts that have been made to elucidate it, the disease is as yet but very partially understood. This I believe is to be attributed to the circumstance, that up to the present time it has only been studied in relation to the puerperal con-

dition, with which it is supposed, by the authors I have named, to be nearly always connected; whereas, in reality, it not unfrequently occurs apart from that state. It is now many years since this fact was pointed out to me by M. Gendrin, the eminent Parisian pathologist; and I have since satisfactorily ascertained the correctness of his statement. A careful analysis of all the cases of pelvic inflammation in the female that I have met with, in a rather wide field of observation, enables me to state most positively, from my own experience, that the disease is by no means uncommon in the non-puerperal state, although generally unrecognized, and confounded with acute metritis or iliac abscess. I am not aware that this important fact has hitherto been recognized by any author who has written on the subject in question, the most recent essays on inflammation of the lateral ligaments treating it as a disease all but peculiar to the puerperal state. Thus out of fifty cases collected from various sources, and published by M. Marechal de Calvi, whose work represents the present state of science abroad, forty-nine are puerperal; out of twenty-three cases quoted by Dr. Churchill, twenty-one are puerperal; the case of Dr. Doherty is puerperal; so also are the nine cases of Dr. Lever.

Owing to inflammation of the uterine appendages having thus been studied only in its severest form—as it occurs in connection with the puerperal state—the peculiar features which the disease presents in its milder or non-puerperal shape have not yet been described. Thus it is that this form passes unrecognized. Nor can we be surprised when we consider how peculiar is the stamp which the puerperal state impresses on all inflammatory diseases. Under its influence they present, as we have seen, an unusual intensity; owing, in a great measure, it is supposed, to the increased quantity of fibrin contained in the blood. This increased intensity has been more particularly noticed with reference to inflammation of the uterus, and is equally observable in the organs connected with it. Thence inflammation of the uterine appendages occurring after parturition presents as great a difference from the same disease in the ordinary state of the system, as puerperal metritis offers to the non-puerperal form of that complaint.

In the puerperal form of the disease the uterus itself is nearly always much implicated; the inflammation of the ovaries, Fallopian tubes, or cellular tissue, has a tendency to extend to the general pelvic peritoneum, and to the cellular tissue lining the pelvic cavity; adhesions to the abdominal parietes, abdominal perforations, and even death not unfrequently taking place. In the non-puerperal form, on the contrary, the disease has a tendency to limit itself to the tissues primarily attacked; peritonitis, abdominal perforations, and a fatal termination very rarely occurring.

The non-recognition of the milder form of this disease has been attended with another evil. The less severe cases of puerperal inflammation are often passed over, and extreme cases only observed and recorded, the result being, that erroneous impressions become prevalent even with respect to the puerperal form. Thus we find M. Mare-



chal de Calvi giving it as an ascertained fact, that the disease is very often fatal, because he finds thirteen fatal cases amongst the fifty—in reality exceptional cases—which he has collected. Reasoning on the same fallacious data, he also comes to the conclusion that these abscesses open as often by the abdominal walls as by the rectum or vagina. In both these assertions there can be no doubt that he is quite in the wrong.

It is my intention, first, to treat of inflammation and abscess of the uterine appendages in the non-puerperal state. By studying this affection in a form in which it is infinitely more simple, and much less complicated with diseases of the surrounding tissues, than when it follows parturition, I hope to be able to throw some additional light on the disease in all its forms. Before, however, we proceed any farther, I must briefly recall to mind the anatomy of the region in which the disease of which I am treating occurs.

The peritoneum in the female, after covering the posterior surface of the bladder, is reflected on the uterus, covers the anterior surface of the body of that organ, also its posterior surface, and is then again reflected on to the rectum. As it passes from the anterior to the posterior wall of the uterus, the peritoneum forms two wide folds, which contain the Fallopian tubes, the ovaries, and the round ligaments. (See fig. 1, p. 23.) The two folds of the peritoneum, which thus, by their juxtaposition, constitute the lateral ligaments, are separated one from the other, and also from the organs which they contain, by a certain amount of filamentous cellular tissue. This cellular tissue is more especially abundant on the sides of the uterus and posteriorly, where the peritoneum is reflected from the vagina on the rectum. It is freely connected with the extra-peritoneal cellular tissue of the pelvis, although in a great measure distinct from it, and deserves more attention both from anatomists and pathologists than it has hitherto received. From its cellular nature, it is prone to inflammation, and consequently it plays an important part in inflammatory disease of this region. Its physiological use, no doubt, is to allow the folds of peritoneal membrane to separate and glide one over the other, when the uterus increases during pregnancy.

The structure of the ovaries is fibro-cellular, that of the Graafian vesicles sero-cellular, whilst the Fallopian tubes present a central mucous canal, and a cellular investment. All these organs, therefore, as well as the cellular tissue which surrounds them, are liable to be attacked by inflammation.

We have thus in the cavity of the pelvis, immediately adjoining the uterus, above the pelvic fascia, between two peritoneal folds, but external to the peritoneum, in contact with the bladder anteriorly, and the rectum posteriorly, a space containing a mass of filamentous cellular tissue—a tissue peculiarly liable to inflammation—and various other organs, also, which from their structure are more or less exposed to inflammatory disease. The history of inflammation in the space thus limited flows so regularly from the laws of pathology, as applied

to these anatomical data, that it is a matter of surprise that it should not hitherto have been elucidated.

In puerperal peritonitis, the lateral ligaments are frequently more or less implicated. It is by no means uncommon, as we have seen, in fatal cases of this form of the disease, to find one or both the ovaries in a state of suppuration, or to meet with abscesses more or less voluminous in the lateral ligaments themselves, or in the walls or cavity of the Fallopian tubes. But in these cases the extension of the inflammation from the peritoneum to the organs contained between the lateral ligaments is merely an epiphenomenon of the peritonitis, and is not, generally speaking, attended with any symptoms which attract special attention. The complication only becomes important if, as sometimes occurs, after the peritonitis has been subdued by treatment, abscesses remain within the lateral ligaments. Such a case, however, would then fall under the category of those which I have to describe, in which the inflammatory disease exists between the folds of the lateral ligaments, without the peritoneal folds being compromised, or at least without the peritoneal inflammation ceasing to be completely local.

#### INFLAMMATION AND ABSCESS OF THE UTERINE APPENDAGES IN THE NON-PUERPERAL STATE.

*Seat.*—Inflammation occurring in the region which I have described may, as we have seen, attack the cellular tissue alone, in which case it is a purely phlegmonous inflammation, or the ovaries alone, or the Fallopian tubes alone, or it may attack all together. In either case the peritoneum may or may not be compromised. Owing to the localization of these organs in the same anatomical region, and to their having the same anatomical relations, the symptoms and history of inflammation, and especially of suppurative inflammation in them are all but identical. Having pointed out, therefore, the features peculiar to ovaritis, and to Fallopian inflammation, in their acute and chronic state, I shall now treat of inflammation and abscess of the lateral ligaments, considered generally.

The peritoneal folds themselves are seldom extensively compromised in non-puerperal inflammation of the uterine appendages. When inflammation occurs in this region *after* parturition, there is a great tendency in the peritoneal membrane to take on the inflammatory action, as is the case when the uterus itself is the seat of inflammation. In the unimpregnated non-puerperal condition, on the contrary, there is comparatively little tendency to extensive inflammation in the peritoneum, and the organs contained between its folds may remain inflamed during months or years without the membrane itself being more than locally affected. This is a singular pathological fact, but one which is equally true when applied to inflammatory affections external to the peritoneum in other parts of the pelvic cavity. Even when acute peritonitis does complicate the attack in the non-

puerperal state, it seems to have a greater tendency to pass into the chronic state, and to localize than to extend its action—the contrary of what obtains in the puerperal condition.

In non-puerperal inflammation of the lateral ligaments the disease, in many cases, is evidently limited to the cellular tissue, and to the ovaries and other organs contained between them, and does not extend to the free cellular tissue of the pelvic cavity. This circumstance induces me to think that in the puerperal form the disease may be often similarly limited at first; although such is not the prevailing opinion.

*Causes.*—The causes of inflammation of the lateral ligaments in the non-puerperal state, are the same as those of acute metritis. Any physiological or pathological action which is calculated to exaggerate the vitality, or to arrest the functions of the uterine system, may be followed by this form of inflammation. Inflammation may attack the ovaries and lateral ligaments directly or indirectly; directly, when they are primarily affected; indirectly, when the uterus is first inflamed, and the inflammation extends from it to the ligaments. Owing to the tendency of the causes which produce uterine inflammation to act on the periphery of the uterine system—a tendency which I have already noticed—inflammation of the lateral ligaments not unfrequently occurs without being preceded or accompanied by metritis. It then originates, as we have seen, sometimes in the cellular tissues, sometimes in the ovaries, and sometimes in the Fallopian tubes, the probable order of their relative frequency. The cause which in the very great majority of cases gives rise to the inflammatory attack, is arrested menstruation. When menstruation is suddenly suppressed, the uterine system being no longer able to relieve itself of the blood that fills it, extreme congestion and inflammation may supervene, generally attacking those regions which are endowed with the highest degree of vitality, and which are consequently the most liable to inflammatory action. I have repeatedly seen this form of uterine inflammation manifest itself in persons laboring under chronic inflammation, or inflammatory ulceration of the cervix.<sup>1</sup> The disease of the cervix is then evidently the point of departure of the inflammatory action, which thence extends to the lateral ligaments. In several instances I have known it follow a severe fall. Even in these cases, however, the inflammation of the uterine appendages generally takes place in connection with menstruation.

*Symptoms.*—The symptoms of inflammation of the uterine appendages are at first sight similar to those of acute metritis. There are the same general febrile symptoms, the same severe pains in the lower hypogastric region; and on attempting to walk or to stretch the body in the erect posture, the same abdominal tenderness and sensation of weight deep in the pelvis, the same vesical irritation and difficulty in defecation. On a closer inspection, however, we may appreciate some

<sup>1</sup> I published an interesting case of this description in the *Lancet* for Feb. 14, 1846, p. 181



dissimilarities. The pain is greatest at a little distance from the median line, in the right or left ovarian region; more frequently in the latter. Sometimes tumefaction is perceptible to the eye from the first. If the patient can bear pressure, and the abdominal parietes are not too thick, or too rigid, a deep-seated swelling is frequently perceived in the ovarian region. The presence, however, of these symptoms is seldom sufficiently conclusive to enable the practitioner to distinguish by them alone, inflammation of the lateral ligaments from acute metritis.

In order to clear up the doubt that otherwise must necessarily remain respecting the true nature of the disease, it is indispensable that a careful digital examination should be made. This is, in my opinion, effected most satisfactorily by placing the patient on her back, the knees being elevated or flexed: the forefinger being introduced into the vagina, the elbow should be depressed, so that in penetrating it may adapt itself to the axis of the pelvis. The pulp of the finger may thus be carried underneath and round the cervix, which should be carefully and accurately examined; then by pushing before the finger the cul de sac of the vagina, where it is inserted on the cervix, the state of the body of the uterus, of the adjoining pelvic organs, and of the pelvic cavity generally, may be ascertained with extreme accuracy, especially if the left hand is at the same time applied over the lower hypogastric region, above the pubis. When this mode of examination is adopted in the healthy female, the bladder being previously emptied, the finger may push the vaginal cul de sac before it on the side of the uterus for an inch or two, and can be made to approximate within a very slight distance of the hand applied externally, and that without giving the slightest pain. The practitioner feels with the greatest distinctness that his fingers are only separated from each other by the thickness of the abdominal parietes, and by tissues (the lateral ligaments) which present no great density of resistance. When, however, the structures contained between these ligaments—cellular tissue, ovaries and Fallopian tubes—are inflamed, thickened, and indurated, the state of things is very different. On attempting to push back the vagina on the side of the uterus, we find an unusual resistance. The vaginal cul de sac has disappeared, and resting on the side of the cervix and body of the uterus, there is an indurated swelling; very different from the normal condition, and very different, also, from what obtains on the other or healthy side, supposing disease to exist on the one side only, as is most frequently the case. Pressure on the swollen, indurated parts is attended with very great pain, and there is a marked increase in the natural heat of the region. On carrying the finger behind the inflamed structures, whilst the abdomen is gently depressed with the left hand, we can ascertain that the inflammatory tumor situated between the hands is movable, and quite distinct from the parietes of the pelvic cavity. This tumor being generally attached, as it were to the side of the uterus, only constitutes one mass with that organ. Thence it is, no doubt, that inflammation in the lateral

ligaments is generally confounded with metritis, even when a digital examination is resorted to, and the presence of an inflammatory swelling recognized. If, notwithstanding a careful vaginal examination, there are doubts as to the nature and extent of the swelling, the uterus and annexed organs should be digitally examined through the rectum.

The tumor formed by the inflamed lateral ligaments is, I believe, more intimately connected with the uterus when it is a purely phlegmonous one—that is, when it is merely the result of inflammation of the cellular tissue—than when it is formed by the inflamed ovary. I would not, however, assert that this is always the case. Under all circumstances the connection between the inflammatory tumor and the side of the uterus is generally so intimate that it must require some experience of these cases to enable the practitioner to distinguish between an enlargement of this description and that caused by acute or chronic metritis.

Acute metritis in the non-puerperal state, as we have seen, generally ends by resolution, or by passing into the chronic stage, suppuration being a rare event, owing to the small amount of cellular tissue in the structure of the uterus. Inflammation of the cellular element in the lateral ligaments, on the contrary, generally ends in suppuration. It becomes in reality, in most cases, a purely phlegmonous inflammation; and the great tendency of this phlegmonous inflammation to terminate by suppuration is an axiom in pathology. Although much less liable to end in suppuration than inflammation of the cellular structure, ovaritis is more frequently followed by suppuration than acute metritis.

Suppuration may consequently be looked for in the course of a few days from the onset of the inflammation, unless the latter has been checked by early and energetic treatment. An experienced and attentive observer may determine when suppuration has taken place by the rigors and other symptoms that accompany internal suppuration, by the lull of the general and local symptoms that follows, and sometimes by a sensation of deep-seated fluctuation perceptible to the touch through the vagina, or even through the abdominal parietes.

When once pus has formed, being closely confined in the region described, if it is not absorbed, as is sometimes, though rarely, the case, it endeavors to find a vent. Adhesive inflammation connects the phlegmonous tumor with the vagina, rectum, abdominal parietes, or bladder, and in the course of a variable period, but generally before the acute inflammatory symptoms have subsided, the pus finds an exit in one or more of these directions. It is all but invariably by the upper portion of the vagina, or by the rectum, that the pus escapes, in the non-puerperal form of inflammation. I can scarcely recall to mind an instance in which I have seen the pus make its way through the abdominal parietes in this form of inflammation, except in a case or two in which there was a serious and permanent cause of disease, such as suppurated tubercle, in the uterine appendages. When, how-

ever, this is the case, it is only after the inflammatory action has lasted for weeks, or even months, that the pus reaches and perforates the abdominal walls; and, nearly always, long before the extended perforation takes place, it has also found its way out of the pelvis, through the vagina or rectum. The emptying of the abscess into the bladder is of still less frequent occurrence, and is likewise generally preceded by the formation of a vaginal or rectal opening. Sometimes the abscess will open in all these directions successively.

These may be termed the ordinary directions by which the pus escapes from the pelvis. In some instances, the peritoneal folds of the lateral ligament ulcerate in the direction of the peritoneal cavity, and the contents of the abscess are evacuated into the peritoneum, giving rise to acute general peritonitis. Sometimes the pus passes along the round ligaments and appears in the labia externa, or, escaping from the pelvis along with the large femoral vessels, follows their course, and points in the thigh. These, however, are quite exceptional cases, and very rarely met with, especially in the non-puerperal form of the disease. In some instances, the pus appears to escape from the neck of the uterus, as if the abscess had emptied itself into the cavity of that organ. I think, however, that when this is the case, the real explanation is that the phlegmonous tumor of the uterine appendages is complicated with metritis, and that an abscess formed in the walls of the uterus has opened into the cavity of the organ. An abscess primarily formed in the lateral ligaments would scarcely be likely to work its way through the thick unyielding walls of the uterus, at least not unless the uterus participated in the inflammatory action.

Generally speaking, as I have stated, the abscess opens into the vagina or rectum, or into both. That such should be the case is at once accounted for when we consider the position of the phlegmonous tumor with reference to these organs, with which it is in immediate contact. The perforation mostly occurs during some exertion, such as a fit of coughing, or the act of defecation, and in so insidious a manner that it is not perceived or mentioned by the patient, unless her attention be previously directed to the point by her medical attendant. This, however, seldom occurs in non-puerperal abscesses, as she herself is not aware of the nature of the disease, and believes her patient to be merely laboring under metritis. The passage of even a considerable quantity of pus from the vagina is thought by the patient to be only an increased flow of the whites, and the escape of pus along with the feces is still less likely to attract her attention. Women, from a natural feeling of delicacy, require to be closely questioned with regard to uterine symptoms, seldom giving any information respecting themselves spontaneously. This circumstance, and their ignorance of the importance of the fact, will tend to account for their not mentioning, unless asked, the escape of pus from the rectum or vagina, even in the few instances in which they are aware that it has taken place. Sometimes the perforation is accompanied by a bursting sensation. It may take place within a few days of the



onset of the inflammation, or it may be weeks before it occurs. The quantity of pus passed varies from a few drachms to half a pint, or more.

It is owing, no doubt to the escape of the purulent collection from the cavity of the pelvis thus taking place in so insidious and latent a manner that unless carefully looked for it is not perceived either by the patient or her medical attendant, that the most severe forms only of the disease have hitherto been recognized and recorded.

The escape of the pus through the vagina is the most favorable point at which it can make its way out of the pelvis. Its presence occasions a certain amount of irritation of the mucous surface over which it passes, but that irritation is scarcely ever considerable. The next most favorable termination is the penetration of the pus into the rectum. When this occurs, there is generally great irritation of the intestinal mucous membrane. Either the ulcerative inflammation of the coats of the rectum, or the presence of the pus, seems to be generally attended by a considerable degree of dysenteric irritability of the lower bowel, which often lasts several days. Repeated motions take place, accompanied by pain and tenesmus. The pus may, however, thus escape without causing any intestinal irritation.

In both cases, the openings by which the pus penetrates into the rectum and vagina are small. In the vagina, the finger frequently fails to detect the precise spot at which the pus has perforated the parietes, nor is it easier to discover it with the speculum. An instrumental examination, however, is scarcely ever necessary, or even admissible, in the acute stage of this disease, owing to the tenderness of the vagina and internal tissues. Even in a more advanced stage, it is only necessary if there is coexisting disease of the cervix that requires local examination and treatment. Sometimes, however, there is a slight depression or induration where the opening exists, which indicates its presence to the finger. The feces and intestinal gases do not appear to escape by these perforations from the rectum, owing, probably, as Dupuytren suggests, to their orifices being closed by the pressure of the abdominal organs.

The escape of the pus by the parietes of the abdomen is always preceded and accompanied by great inflammatory swelling and induration of the surrounding tissues, and of the abdominal walls. The phlegmonous tumor is a long time in reaching the exterior, and gradually involves all the tissues which separate it from the skin, thus giving rise to an extensive inflammatory tumor of a very painful and distressing nature. The opening generally takes place above the crural arcade, in the neighborhood of the ovarian region. The sympathetic and reactional symptoms are necessarily severe in these cases; but the entire series of symptoms, both general and local, which are observed when abdominal perforations occur, may be considered as more especially characteristic of the puerperal form of the disease, since they are seldom met with apart from its presence.

The penetration of the pus into the bladder is a very rare circum-

stance, and before it takes place, it has nearly always found some other vent. In one case—a puerperal one, however—which I had under my care in 1840, at the Hospital St. Louis, Paris, the pus made its way successively into the rectum, through the abdominal walls, and into the bladder. The presence of the pus in the bladder is always attended by very considerable cystic irritability; but the urine does not appear to escape from the ulcerated opening, at least I have never seen any instance in which there was reason to suppose that such a serious accident had taken place.

When the pus has fairly escaped from the pelvic cavity, a marked change is observed in the state of the patient. There is a decided lull in all the symptoms. The deep-seated pelvic pains diminish, as do also the abdominal tenderness and swelling, and the febrile symptoms quickly subside. In very many cases the improvement is so rapid, especially when the abscess has opened by the vagina, that the patient is considered quite convalescent, and in hospital practice is discharged as cured. This improvement, however, although real, is very deceptive with reference to the future. On making a careful digital examination of a patient so situated, we find that the tumor on one side of the uterus is much diminished in size, that it is no longer so sensitive to the touch, and that there is less heat and tenderness in the upper part of the vagina, and on the side which is in contact with the phlegmonous swelling. But although thus less in size, and less inflamed, the inflammatory tumor is nearly always *still perceptible*. Part of it has melted and suppurated, but part remains in a state of semi-chronic inflammation and induration, as is generally the case with suppurated phlegmonous tumors.

The symptoms which indicate chronic uterine inflammation will consequently, on a close examination, be found still to exist. Pain, heaviness, and bearing down, deep in the pelvis; tenderness, pain, and often swelling in one or both the ovarian regions; pain in the lower part of the back; and inability to stand or walk for any time, and more especially to go up and down stairs. These symptoms may be more or less apparent.

The orifices by which the pus has escaped into the vagina or rectum sometimes remain open, and thus allow the pus to discharge itself as it is formed. Sometimes, however, they close in the course of a few days. When this is the case, if pus ceases to be secreted, and the remains of the phlegmonous tumor are rapidly resolved, as occasionally occurs, the disease is soon brought to a close, and the patient completely recovers in the course of a few weeks, or of a month or two. But if pus continues to be secreted, it collects, again forms an abscess, and, before it escapes by ulcerative inflammation, may reproduce, though generally in a mitigated form, the acute inflammatory symptoms previously experienced.

Were these inflammatory tumors not exposed to the influence of any perturbing causes, they would, no doubt, in most instances, gradually become absorbed, and the relapses just described would be

slight and unfrequent. Such, however, unfortunately, is not the case, at least in a large proportion of the instances met with. The molimen hemorrhagicum which accompanies menstruation, or functional uterine excitement, generally rouses the dormant inflammatory action repeatedly in the still indurated and tumefied tissues. The acute symptoms of the disease reappear, and matter again forms, which forces its way into the vagina or rectum; in the latter case, giving rise to dysenteric symptoms.

These exacerbations or returns of acute disease become less and less frequent as the inflammatory tumefaction of the uterine appendages diminishes, and as the diseased tissues return to their natural condition. The malady, however, is essentially a chronic one. A female who has suffered from inflammation and suppuration of the lateral ligaments, even in its mildest form, may be from several months to one or more years before all trace of local inflammation has disappeared, and before she can be said to be radically well. During this lengthened period, she is never quite free from symptoms of uterine irritation, and remains subject at intervals to the acute exacerbations which I have described. Whilst thus suffering, menstruation is always more or less modified. Sometimes it is absent for months, sometimes its appearance is only delayed for a few days or weeks. Generally speaking, the menstrual period is curtailed, the quantity of blood lost is diminished, and great pain is experienced during the entire period of the menstrual secretion. In some rare instances, however, the quantity of blood lost is increased, and the periods are approximated. Finding, as we thus do, that the physiological congestion which accompanies menstruation is so much increased and disturbed by the presence of disease in the annexed uterine organs, we cannot be surprised that it should in its turn exercise a prejudicial influence over the inflammatory affection, and be the most frequent cause of the exacerbations that we have noticed. Nor is it surprising that there should be always a leucorrhoeal discharge present, the entire uterine system remaining in a state of permanent congestion even when not under the influence of the menstrual flux.

Long before the local tenderness gives way, and before the patient can be pronounced well, all trace of induration or swelling, as appreciable by the touch, either through the vagina or through the abdominal parietes, will be found to have disappeared. The formation and escape of matter often come to a close at even a much earlier period; before the induration has melted and ceased to be recognizable on a digital examination.

Such is the succession of morbid symptoms observable in the milder or non-puerperal forms of inflammation of the uterine appendages. Although often overlooked, owing to ignorance of the pathological facts of which these symptoms are the result, this disease is in reality as easy to recognize and to follow in the evolution of its phenomena as many better known affections.

Throughout its entire deviation, however, there is one great dan-



ger which must never be lost sight of, that of acute peritonitis. This fatal disease may occur at any moment from the extension of the slight local peritoneal inflammation, which, no doubt, always exists. It may also be the result of the perforation or rupture of the peritoneum, and of the passage of pus or blood, or both combined, into the pelvic cavity.

*Progress and Termination.*—In the acute stage, inflammation of the lateral ligaments is accompanied by the train of general febrile symptoms that usually accompany acute diseases. As it passes into the chronic form, it gives rise to the host of sympathetic morbid symptoms which characterize chronic uterine disease generally—dyspepsia, cardialgia, constipation, cephalalgia, palpitation, insomnia, general debility, and defective nutrition.

It may terminate, as we have seen, by resolution in the first stage, under prompt and energetic treatment. More generally, however, suppuration takes place, and the tedious succession of morbid phenomena which I have described are observed. The great danger, as above stated, is acute peritonitis.

The duration of the secondary stage of the disease, pending which the patient is gradually but slowly rallying from the effects of the first attack of acute inflammation and its immediate results, varies according to the state of the constitution and of the general health, to the social circumstances of the patient, and to the treatment resorted to. When all the circumstances are favorable, the exacerbations and relapses are few in number, and the patient recovers with comparative rapidity. When such is not the case, and sometimes under the most favorable circumstances, the return to health is very slow and tedious. Generally speaking, however, in the form of the disease which I am now more especially describing, that which is unconnected with parturition, the pus escaping internally and the abdominal walls not being involved, the local and constitutional symptoms are not very severe, except during the exacerbations and relapses. The patient is able to get about, and to follow more or less her usual avocations. She is merely in delicate or bad health, has unusual pelvic pains and sensations, and menstruation is disturbed and laborious; the real cause of this condition being nearly always a mystery both to herself and her medical attendant.

*Prognosis.*—The prognosis of this disease, especially in the non-puerperal form, is not as serious as it has been represented. Although, however, in the non-puerperal state the life of the patient is seldom in danger, the prognosis must still be looked upon as serious with reference to her health, which is generally compromised for a lengthened period, for months and sometimes for years. Hence the very great importance of distinguishing between it and acute metritis, with which it is most frequently confounded. Acute metritis generally terminates by resolution under judicious treatment, without giving rise to suppuration, and without leaving behind any traces of its existence. Inflammation of the lateral ligaments, on the contrary, although apparently

not a more severe disease in its invasion and period of acuity, gives rise to lesions and changes of structure which time and careful treatment only can remove, and which are sometimes never completely remedied.

The reason that inflammation and abscess of the lateral ligaments have hitherto been considered so serious a disease, and described as very frequently fatal, is, as I have stated, that attention has only been directed to exceptional cases, to those which follow parturition, in which the peritoneal element predominates, and in which very extensive pelvic suppurations take place, giving rise to external perforations. In this form of the disease, death occasionally occurs; but even under such circumstances it is rare, unless the inflammation assume an extreme and exceptional degree of intensity.

*Diagnosis.*—No one who has carefully read the above description of inflammation of the lateral ligaments can doubt the extreme importance of an early and accurate diagnosis. When recognized in the first stage of its existence, we may often by active treatment produce complete resolution, in which case the disease is at once brought to a close; and even when unsuccessful in preventing suppuration, the extent of the surrounding inflammation, and the quantity of pus formed, may frequently be limited, and much future suffering spared to the patient. Nor is it a matter of small importance that, being aware from the first of the serious nature and of the peculiar features of the disease in its secondary stage, we are prepared to give a guarded prognosis, or even to predict to the patient and her friends possible danger and the long train of morbid symptoms that generally follows when suppuration has once taken place. If, on the contrary, we slur over the diagnosis, omitting to resort to those means of examination by which alone we are enabled to recognize the true nature of the disease—if we satisfy ourselves with the presumption of its being a case of metritis or of “inflammation of the bowels”—the vague appellation under which various pelvic and visceral inflammations are so often confounded—the health of the patient and the reputation of the practitioner alike suffer.

The symptoms of inflammation of the lateral ligaments in the acute state are often, as we have seen, so similar to those of acute metritis, that unless there be from the first a deep-seated tumor of an inflammatory nature perceptible in one or both ovarian regions on external pressure, it is next to impossible to distinguish one disease from the other by any means except a careful digital examination. Such an examination is the more necessary, as, even were a tumor found evidently developed externally to the uterus, it would yet be impossible, without a digital exploration, to say positively whether the disease was a phlegmonous inflammation of the ovary, lateral ligaments generally, or a similar inflammation developed in the iliac fossa. This latter affection is still universally confounded with the one we are studying, notwithstanding the attention which it has recently attracted.

The proximity of the region in which the lateral ligaments are situated to the iliac fossa is so great, that phlegmonous tumors developed in either locality must encroach more or less on the other, thus rendering the distinction by palpation through the walls of the abdomen in most cases difficult, if not impossible. We must not, also, forget to take into consideration, as increasing the difficulty of diagnosis by external examination, the extreme sensibility of the abdominal parietes in these inflammatory diseases, and their consequent spasmodic rigidity, and the frequent presence of a considerable amount of adipose tissue. These various obstacles may, however, be overcome, in the very great majority of instances, by a careful digital exploration per vaginam of the pelvic cavity. It is a singular circumstance, and one worthy of notice, that none of the authors who have written on iliac abscess in the female, have given due weight to this very important and rational mode of establishing a correct diagnosis. Many writers do not even attempt to separate the two diseases, unintentionally confounding them in the same description; and those who try to establish the distinction rely on the external examination of the abdominal parietes, and on other symptoms, such as the site of the disease, which is generally on the right side in iliac abscess, retraction of the thigh being often present in that affection, and generally absent in the other disease, &c. If the phlegmonous tumor is situated in the iliac fossa, and in cases of lumbar or psoas abscess, the finger finds the uterus, the region immediately adjoining it, and the vaginal cul de sac, all but free from tumefaction, heat, or pain; although the presence of an inflammatory affection in the neighborhood sometimes imparts considerable sensitiveness to these organs. On pushing back the vagina towards the side of the pelvis, the phlegmonous tumor may be felt, but evidently connected with the side of the pelvis; over the edge of which it protrudes more or less internally. When the appendages of the uterus, on the contrary, are affected, with the assistance of the finger we at once perceive that the disease is seated in the pelvic cavity itself, where all the changes previously described are detected. In some rare instances, inflammation may pass from the lateral ligaments to the iliac fossa, and *vice versâ*, in which case the symptoms of the two affections would be united. Examination per anum, in doubtful cases, will often materially assist the diagnosis, but it is not usually necessary, and may therefore, generally speaking, be omitted.

Acute metritis and iliac abscess are the two diseases with which inflammation of the lateral ligaments is most likely to be confounded. It presents, however, some features in common with other pelvic affections, and more especially with peri-uterine hematocele, or pelvic hemorrhage originating in the uterine appendages. The symptoms peculiar to this form of hemorrhage will be examined in a special article at the end of this chapter.

In chronic partial metritis there is a limited tumefaction of the uterus, which might be mistaken for a small inflammatory tumor of the lateral ligaments in juxtaposition with the uterus; but in chronic me-



tritis the enlargement is nearly always situated at the posterior and inferior portion of that organ, not at the side, and it is decidedly a part of the uterus; there is no trace of suppuration, and the antecedents are different. Tumors of the ovaries or of the Fallopian tubes, a tumor formed by extra-uterine pregnancy, or by a collection of feces in the large intestines, may all occupy the same position, but there is the entire absence of inflammatory symptoms, and the completely different nature of the antecedents and symptoms of the disease to guide us.

Inflammation of the lateral ligaments is not only met with in the acute stage; it frequently presents itself to our notice for the first time in a chronic state, having existed unrecognized for a lengthened period. When this is the case, the abdominal tenderness, the external swelling, and all the acute symptoms may have disappeared. The symptoms may be merely those of chronic uterine disease, more or less marked, with disturbed menstruation, and occasional inflammatory exacerbations. At this stage of the disease an accurate digital examination is the only means of arriving at a correct diagnosis. If we find the remains of a sensitive indurated tumor in contact with the uterus, and the antecedents of the case are such as I have described, the nature of the disease may be at once presumed. In some instances I have even clearly recognized the disease by the history which the patient gave me of her sufferings, when all traces of inflammatory induration had disappeared from the pelvis, and there was only slight tenderness in the region previously affected.

When the phlegmonous inflammation extends throughout the entire pelvis, and purulent collections form in various directions, the pelvic cavity becoming, as it were, a mass of disease, it is difficult to say where or how the malady began, if we have not had an opportunity of following its course. But these cases belong more especially to the more severe or puerperal form of inflammation of the lateral ligaments, which I shall now briefly describe. I must, however, previously remind my readers, that although I describe the disease in the puerperal condition as a type, disease of an equally severe character may occur at any period of life, in any constitutional condition and under any of the influences enumerated above.

#### INFLAMMATION AND ABSCESS OF THE UTERINE APPENDAGES IN THE PUERPERAL STATE.

The puerperal state, which may be said to extend from the time of parturition to the end of the fourth, fifth, or sixth week, is one of considerable danger. While it lasts, as I have stated, all inflammatory diseases present peculiar severity, and more especially those of the organs that have been directly or indirectly concerned in the function of parturition.

If inflammation occurs in the ovaries and lateral ligaments immediately after delivery, it is frequently complicated with metro-peritonitis,

appearing merely as an epiphenomenon of that formidable malady. Most writers on puerperal fever have noticed the frequent occurrence of suppuration in the ovaries and lateral ligaments in fatal cases of metro-peritonitis. But even when the lateral ligaments are attacked with inflammation several weeks after parturition, the general symptoms run higher, the local tumefaction is greater, and there is from the first a greater disposition in the inflammation to extend and to compromise the adjoining tissues, than in the non-puerperal form of inflammation. There is also much greater difficulty experienced in arresting the progress of the disease; the inflammatory and the suppurative process often continue to extend long after the first purulent collection has escaped from the pelvis, and at last give rise in many cases to abdominal adhesions and perforations. This, the severe form of the disease, is the exception in the non-puerperal state; whereas in the puerperal condition, it is so frequently met with, that it has hitherto been considered the only form in which the malady manifests itself.

When connected with metro-peritonitis, it is all but impossible to distinguish the symptoms peculiar to the inflammation of the lateral ligaments in the midst of those of the metro-peritoneal inflammation; but on the latter subsiding, an inflammatory tumor will be found in the pelvis, recognizable by the local conditions which I have pointed out. Sometimes in the recovery from metro-peritonitis, false membranes imprison or limit, on one or both sides of the uterus, collections of pus, which are internal to the peritoneum and external to the lateral ligaments, but which, lying in contact with the lateral ligaments, simulate phlegmonous tumors of these organs, and are not to be distinguished from them. In these cases, the lateral ligaments themselves may or may not be diseased. Even when the disease is a *bona fide* inflammation of the organs contained within the lateral ligaments, if it has originated in an attack of metro-peritonitis, it is nearly always subsequently complicated by more or less chronic inflammation of the uterus and of the neighboring peritoneum.

Inflammation of the lateral ligaments may, however, appear *primarily*, at any period of the puerperal condition, apart from metro-peritonitis. The symptoms are those which I have already described, but in a more violent form; the degree of violence depending, to a great extent, on the proximity to the date of the delivery. In these cases there is generally a certain amount of metritis and peritonitis present; the peritoneum not having yet lost its liability to take on inflammatory action. I have often seen this form of the disease in the Paris hospitals in young women who, after passing over their confinement safely in the maternity hospitals, had been sent out on the eighth or tenth day, and had been exposed to cold and over-exertion on their return home. One of the most frequent causes is the sudden arrest of lactation, however it may originate.

In the puerperal form of the disease, the inflammation being more extensive than in the non-puerperal condition, occupying nearly always the uterus and the peritoneum, as well as the cellular tissue and

organs contained between the peritoneal folds, not only are the primary symptoms very much more acute and more serious, but we do not observe that complete remission of the febrile symptoms which takes place in the milder form, when the pus has escaped externally. Relief is certainly experienced by the escape of pus through the rectum, vagina, or bladder, but the relief is only partial. The abdominal tumefaction remains, and is hard and painful to the touch; the pulse is quick, the skin hot, the tongue white or furred; the patient does not sleep, loathes food, and is unable to move without pain. On examining digitally, we find a hard sensitive tumor lying on one side of the uterus, but it is impossible to limit it as before. It has evidently contracted adhesions with all the surrounding organs, with the abdominal walls, and with the pelvic parietes, and often resists all efforts to move it with the finger. At the same time, pressure thus exercised is so extremely painful, that it is very difficult, if not impossible, to make a satisfactory examination. In some cases the opening naturally formed into the rectum, vagina, or bladder for the escape of pus, remains patent, and allows the pus to ooze out as it is formed. In others the flow of pus is intermittent, the connection with the sac of the abscess being probably of a valvular nature, opening when the pressure is considerable, and then again closing for a few hours or even days. The abscess having thus opened in one point does not, however, in many cases, prevent the inflammatory action extending in various directions, and the pus making its way to the exterior of the pelvis by other outlets.

Softening of the abdominal muscles, and perforation of the abdominal walls, are frequently observed in this form of the disease; and the efforts of nature thus to evacuate the contents of the inflammatory tumor by fresh outlets are often accompanied by a recrudescence in the general febrile symptoms. Sometimes œdema of one or both limbs takes place, owing to inflammation and obliteration of the large pelvic veins. The danger of extensive pelvic adhesions and of subsequent abdominal perforations, decreases as the patient recedes from the epoch of her confinement. After five or six weeks she falls into the non-puerperal state, and the symptoms often become less severe. Should the attack merely commence at that epoch the malady assumes the milder form.

The unfortunate patient in these cases often remains in a very deplorable condition for several months, and becomes reduced to such an extreme state of marasmus that a practitioner who is not accustomed to see the disease would think it all but impossible for a recovery to occur, especially if he is aware of the extensive amount of pelvic inflammation that exists. In some instances death does take place, the patient becoming reduced so low by pain, continued fever, and extensive suppuration, as not to be able to rally. Death also not unfrequently occurs from the manifestation of general peritonitis—the result of extension of the inflammation, or of perforation of the peritoneum, and of the escape of pus into its cavity from pyæmia or



purulent absorption—or from some intercurrent disease, which the debilitated patient cannot withstand.

I firmly believe, however, that even in this, the severest form of the disease, the mortality has been much exaggerated by M. Maréchal de Calvi, and other recent writers, owing to the source of error which I have pointed out—viz., their opinions being formed from the statistical comparison of the cases hitherto published, these cases being in reality extreme and exceptional illustrations of the disease, which have attracted attention from that very circumstance. To these statistical calculations I am not able, it is true, to oppose any figures of my own, for I have noted down but a few of the very many cases of puerperal inflammation of the uterine appendages that I have seen. My experience, however, enables me to assert, most positively, that even in the puerperal form of the disease, death is not of very frequent occurrence, if we except the cases to which I have alluded, in which the inflammation of the organs contained within the lateral ligaments is merely an epiphenomenon of a much more dangerous disease, metro-peritonitis.

The same source of error has also led M. Maréchal de Calvi astray with reference to the frequency of abdominal perforations, which, on the same statistical grounds, he supposes to be as great as that of perforation of the rectum or vagina. Nothing, according to my experience, can be farther from the truth. Consecutive perforation of the abdominal parietes is not unfrequently met with in the puerperal form of the disease, but still it is exceptional as compared with the great majority of cases in which it does not occur. This fact proves how erroneous must be the description of a disease founded, not on personal experience, but on the analysis of exceptional cases recorded in medical literature.

Although a female may be reduced to the most extreme state of marasmus and debility by this disease, death, as I have stated, does not frequently follow. It is, indeed, most extraordinary how tenacious of life females thus suffering appear. I have known them recover after seeming, for weeks, as if they could scarcely live four-and-twenty hours. This tenacity of life is, no doubt, to be explained by the circumstance of no vital organ being attacked the functions of which are necessary for the preservation of the individual. It is well known that in cases of uterine cancer life will persist long after the pelvic cavity has become a complete mass of disease, owing to the same cause. In these severe cases, however, the recovery is always very slow, especially when fistulous openings exist in the abdominal walls. The first indication of a favorable change is the subsidence of the febrile action, which is generally accompanied by a marked remission in the local inflammatory symptoms. The appetite and sleep return, and the patient gradually enters the period of convalescence. So many morbid changes, however, have taken place; there is so much thickening and inflammatory induration of the pelvic tissues and organs, and such extensive deposits of lymph; the sinuses that

communicate with the exterior or with the internal cavities are so indirect and so firmly organized that months and even years may elapse before all traces of disease have disappeared, and before the pelvic organs are restored to a state of integrity. The chronic inflammation of the uterus, which, as we have seen, generally coexists in these cases, renders the recovery still more tedious and difficult, and sometimes the patients never thoroughly rally. Even when a complete restoration to health has taken place, and all traces of pelvic inflammation have disappeared, there generally remain adhesions between the various pelvic organs, which are permanently united one to another; thence various displacements of the uterus, Fallopian tubes, or ovaries, uneasy sensations, and in some instances incurable sterility, as the result of these changes.

*Pathological Anatomy.*—It is by no means easy to give a clear and faithful description of the pathological anatomy of inflammation of the lateral ligaments, since, as we have seen, it is only followed by death when such extensive changes have taken place in the surrounding organs, that it was next to impossible to distinguish the primary from the secondary morbid phenomena, and to say whether the disease commenced in the lateral ligaments or elsewhere.

If the disease of the lateral ligaments exists as a complication of acute metro-peritonitis, in addition to the changes usually found in acute metro-peritonitis in the uterus and peritoneum, to the sero-albuminous effusion, and to the pseudo-membranes agglutinating the injected intestinal circumvolutions, we find the cellular tissue contained between the lateral ligaments and the ovaries swollen and congested, or infiltrated with pus; or there may be pus in greater or less quantity collected in foci between the peritoneal folds, in the ovaries or Fallopian tubes. These are also, no doubt, the pathological changes that take place in the non-puerperal and more simple form of the disease—changes which, as I have said, we have seldom the opportunity of observing, the disease not being often a fatal one in this, its primary and simple form. When the patient dies from extension of the inflammation to the peritoneum, or from acute peritonitis, the result of the escape of pus by perforation into the peritoneal cavity, we have also the combined changes produced by the inflammatory disease of the uterine appendages, and by the general peritoneal affection. In these cases, as in the former, it is not unfrequent to find circumscribed purulent collections, limited by false membranes, existing in the cavity of the peritoneum in the neighborhood of the pelvic organs.

When death occurs from exhaustion, the result of long continued inflammatory action and suppuration, a vast amount of disease is generally revealed. On exposing the pelvis, it is found to present a suppurating cavity of greater or less extent, containing more or less pus, and circumscribed, sometimes by a well-marked pyogenic membrane, from one to two or three lines in thickness, sometimes by the pelvic organs and the intestines thickened and lined with pseudo-membranes. I have seen this suppurating cavity occupy nearly the

entire pelvis, its walls being formed by the rectum posteriorly, the bladder and abdominal parietes anteriorly, and the intestines superiorly. The ovaries and Fallopian tubes are thickened and enlarged, and lie macerating in pus, on the side of the uterus, itself inflamed, and increased in size. When this is the case, all trace of the peritoneal element in the lateral ligaments seems to have disappeared, or, at least, is no longer recognizable. There is often more or less pus in the Fallopian tubes or in the ovaries, in the canal of the former and in the substance of the latter. The ovaries may, as we have already seen, have become mere sacs filled with pus. The rectum, vagina, and bladder are generally thickened and inflamed, especially if they have been perforated by the pus. The abdominal walls are also thickened and indurated where they are in contact with the purulent collection. If a perforation has taken place, the muscular fibres are transformed into a dense homogeneous tissue, streaked with yellow lines.

In addition to these changes in the pelvic cavity there may be also various evidences of disorganization in the iliac fossæ, and in the lumbar region, &c., the result of the extension of the disease to these regions, or of its simultaneous manifestation therein. Thus underneath the iliac or lumbar fascia we may find purulent collections macerating and dissociating the iliac, psoas, and quadratus muscles. I need scarcely add, that when the latter evidences of morbid action alone are found, the disease is no longer the one I am describing, but a totally different one in its seat and symptoms—viz., iliac abscess. This latter malady not unfrequently occurs after parturition.

The large veins of the pelvis and abdomen, the iliac and femoral veins, and even the vena porta, have been found obliterated by MM. Melier, Tardieu, and other observers; and the lymphatics of the uterus and pelvic region have also been found filled with pus.

#### UTERINE HEMATOCELE, OR PERI-UTERINE HEMORRHAGE.

During the last few years (1861) great attention has been paid by French pathologists to the subject of peri-uterine hemorrhage. Necroscopic examinations first revealed the fact that pelvic tumors, supposed to be the result of inflammation of the ovaries or of the lateral ligaments, were in reality the result of hemorrhage from various regions, the ovaries, the utero-ovarian veins, or the Fallopian tubes. The same information was accidentally obtained by various surgeons who attempted to empty, by puncture through the vagina, as they thought, purulent collections following inflammation of the lateral ligaments. Instead of matter, blood only was obtained. It thus became evident that in these cases the pelvic tumor was the result of hemorrhagic effusion of blood, and not of inflammation. A sufficient number of cases have now been collected and published by various authors to prove that pelvic sanguineous tumors presenting this origin, although not common, are by no means of exceptional occurrence.

Great difference of opinion exists as to the origin and seat of intra-



pelvic hemorrhage. Some writers think that the effusion of blood takes place originally between the peritoneal folds of the lateral ligaments, and is, consequently, external to the peritoneal cavity. Others are of opinion that the hemorrhage is generally intra-peritoneal, from the first, in the great majority of cases. This is the opinion of my regretted friend, M. Aran, who has given a very complete history of the subject, in a great measure drawn from personal observation, in his recent valuable work. I think myself that it is the correct view of what really occurs. The lateral ligaments are evidently not capable of separating under the influence of hemorrhage so as to comprise between their folds the enormous collections of blood which sometimes fill the pelvis up to the level of the spinous processes of the ilium. No doubt limited hemorrhagic fluxes may take place in this region, but the larger collections of blood are probably all intra-peritoneal, and the membrane which limits them internally, and has been taken for the peritoneal investment, is, as M. Aran states, merely a false membrane. This becomes all the more evident when we examine the conditions that precede and cause the hemorrhage.

Although these conditions are generally admitted to be various, some writers have endeavored to prove that the hemorrhage mostly occurs from one particular cause. Thus MM. Laugier and Nelaton think that the effusion of blood, which usually coincides with disordered menstrual conditions, and is often connected with menstruation, is the result of its escape from the cavity of the Graafian vesicle after the monthly evolution of the ovule. In this theory the molimen hemorrhagicum of menstruation, combined with a morbid congestive state of the ovary, constitutes the effective cause. Although hemorrhage may undoubtedly occur in this way, it is scarcely admissible that a mere physiological phenomenon which takes place safely in all menstruated females every month during a great portion of their life, should often be attended with hemorrhage. Again, MM. Trousseau and Bernutz believe that the blood generally passes from the cavity of the uterus or Fallopian tube into the peritoneal cavity through its open extremity. Although cases are cited in which this has occurred, they must be considered as very exceptional, for such a course of the effused blood is contrary both to physiological and to pathological facts. M. Decès gives a case in which imperforation of the cervix led to intra-uterine and intra-Fallopian accumulation of menstrual blood, and fatal rupture of the latter. Numerous cases, however, are on record in which, from congenital or accidental absence, or from obliteration of the cervical orifice and canal, large quantities of menstrual blood have accumulated in the uterus, greatly increasing its size, and giving rise to acute pain, without its being effused into the peritoneal cavity through the Fallopian tube. I have myself seen and relieved cases of this description. Again, M. Richet thinks that the source of the hemorrhage is generally from the utero-ovarian plexus of veins which may become varicose and ulcerate or break.

Although accepting the above as exceptional causes, we must, I

think, admit, with M. Aran, that peri-uterine hemorrhage is generally connected with more serious and more permanent injury of the uterine organs, such as tubal conception, and the rupture of the ovum and Fallopian tube, rupture of kysts of the Fallopian tube, or of kysts of the ovary, or rupture of sanguineous collections formed in the ovary. In all these cases the blood is effused into the peritoneal cavity in greater or less abundance. The existence of these morbid conditions of the annexed uterine conditions explains the disturbance in the functions of menstruation, and the morbid uterine symptoms which have been often observed to exist some time before the occurrence of the hemorrhage.

The effusion of blood into the pelvic peritoneal cavity has been known to be followed at once by intense pain, sinking, and death, or by fatal general peritonitis. Generally speaking, however, the pain, although very great in the pelvic and uterine regions, is bearable, and the peritoneal inflammation, which follows and limits the effusion, remains local. If the patient is seen soon after the hemorrhage has taken place, and the latter is considerable, a perceptible tumor is perceived on examining externally, with the hand, the lower abdominal regions. This tumor rises, as it were, out of the pelvic cavity, and forms a prominence in each ovarian region, on the sides of the uterus. On examining per vaginam, the finger recognizes that the uterus is pushed upwards and forwards by a semi-solid, or rather hard mass, which evidently occupies the pelvic cavity, and is continuous with the tumefaction discovered externally. This mass bulges into the vagina, pushing it down on each side of the displaced uterus, a different state of things to that which obtains in inflammation and abscess of the lateral ligaments. In the latter the uterus is seldom displaced as above—upwards and forwards—and the inflammatory mass or purulent collection generally remains lateral, confined to the ovarian regions. Another important difference is derived from the progress of the case. In hemorrhage, if the patient survives the shock to the system, and escapes acute general peritonitis, the blood effused is limited by adhesions and false membranes, and absorption at once begins. Thus the tumor diminishes rapidly, visibly indeed, from day to day, and in a very short time—a week or ten days—it may be reduced to half or one-third of its primitive size. Should suppurative inflammation not set in, not only the serous, but the more solid constituents of the effused blood are gradually taken up, and in the course of one, two, or more months, every trace of the hemorrhage may disappear.

Not unfrequently, however, inflammation extends from the organs primitively ruptured, Fallopian tube, venous plexus, or ovary, or from the local peritonitis, to the surrounding tissues. Pus forms and mixes with the effused blood, and the case, primitively, one of mere hemorrhage, assumes all the characters of the disease we have just examined, inflammation and abscess of the lateral ligaments. When the hemorrhage is owing to the rupture of the Fallopian tube from the presence

of an impregnated ovum, however early, this is more especially likely to occur. In such cases the ovum becomes a foreign body, and if not a cause of fatal peritonitis, is all but certain to occasion by its presence serious local inflammatory mischief.

Very frequently, in women belonging to the lower classes of society, who often strive to continue their occupations even when suffering great pain, it is only some days or weeks, even after the hemorrhage, that medical assistance is required. In such cases it may be difficult, or even impossible, to recognize the exact nature of the case. A hard sensitive mass only may be found on one or both sides of the uterus, the latter having regained its normal position. Such patients also often give a very confused account of themselves, which increases the difficulty of the diagnosis. This, however, is of the less importance, as the treatment is much the same in this stage of hemorrhage as it would be in inflammation of the lateral ligaments.

When peri-uterine hemorrhage was first recognized, an attempt was made by the Paris surgeons in several cases to empty the effused fluid by the vagina, as already stated. This plan of treatment was, however, found to be attended with the very danger which it was most important to avoid; it was often followed by inflammation of a serious or even fatal character. It has, therefore, been justly abandoned. The most prudent course is to place the patient under the most favorable conditions by confining her to her bed and then to adopt such means as are most likely, on the one hand, to promote absorption, and on the other to keep down peritoneal inflammation. The first indication is followed by the agency of diuretics and repeated mild purgatives, the second by the occasional application of leeches and blisters to the abdominal walls, and such other means as the constitutional state of the patient admits. When inflammation and the formation of pus follow, the course of events is just the same as in abscess from inflammation existing independently of hemorrhage, the pus gradually making its way to the exterior, and the treatment must also be the same. I would only again remark that in cases of hemorrhage, as in cases of mere inflammation, time forms a very important element in the recovery of the patient; the general strength must therefore be kept up by as liberal, although non-stimulating a diet as the state of the patient will admit.



## CHAPTER XII.

## TREATMENT.

## ON THE TREATMENT OF INFLAMMATION OF THE UTERUS, AND OF THE UTERINE ORGANS.

THE neck of the uterus being the region most frequently attacked by inflammation, I shall intervert the order which I have adopted in the first part of the work, and commence by the study of the treatment of inflammation in that region. Another peremptory reason for following this course is, that the neck of the uterus, and its cavity being the most accessible parts of the uterus, and consequently, those to which local means of treatment are principally addressed, it is but natural that the effect of such remedies should be first studied in inflammation of the tissues to which they are more immediately applied.

After I have fully described the treatment of inflammation in the neck of the uterus, and of its sequelæ, I shall be able, in a few pages, to state in what manner it should be modified when the disease occupies other regions of the uterine system.

I may here remark, that in describing the treatment of inflammatory affections of the uterus, I shall merely have to apply to these diseases, as elucidated in the preceding pages, the laws which regulate the treatment of inflammation, when it occurs in other regions of the body. The intimate nature of disease is the same in all similar tissues, although its modes of manifestation are varied; and when once the real nature of the morbid processes which take place in the uterus is brought clearly to light, the appropriate treatment may, to a great extent, be deduced by analogy and reasoning from the general laws of medical and surgical therapeutics.

## THE TREATMENT OF INFLAMMATION OF THE NECK OF THE UTERUS.

*Inflammation of the Neck of the Uterus, without Ulceration or Hypertrophy.*

Simple inflammation of the neck of the uterus, limited to the mucous membrane covering the cervix and lining its cavity, in its incipient stage, and unaccompanied by ulceration or hypertrophy, may generally be subdued by the use of emollient or astringent injections,

tepid baths, and rest, combined with attention to the state of the bowels, and to the general health.

It is seldom, however, that the disease is seen in practice in this its elementary state. The discomfort experienced by the patient is so slight that she is scarcely ever aware that anything is wrong, and consequently does not complain. Even were she to seek advice, the absence of any marked uterine symptom would probably prevent the existence of disease being detected.

When inflammation has extended to the deeper tissues of the cervix, symptoms supervene, as we have seen, which more imperatively call the attention of the patient to the uterus; and the existence of the morbid condition is thus often recognized in an early period of its development. If the cervix has become slightly hypertrophied and enlarged, the means above mentioned are sometimes insufficient to overcome the inflammation, and the application of leeches to the organ affected may become advisable. The use of the nitrate of silver, in solution or solid, to the inflamed mucous membrane covering the cervix, or lining its cavity, is also often very beneficial.

When the cavity of the cervix and the mucous follicles concealed between the rugæ of the arbor vitæ have been long inflamed, and an abundant transparent or purulent mucus issues from the os uteri, it is generally necessary to carry the remedies into the cervical cavity itself. The inflammation may subside without this being required, under the influence of the means used to subdue the inflammation of the cervix; but in chronic cases this is rather the exception than the rule. Not unfrequently the disease seems to take refuge, as it were, in this region, nothing short of actual local treatment of the inflamed surface being sufficient to overcome its tenacity; owing, probably, to the deep-seated and concealed position of the mucous follicles.

On glancing over the above enumeration of the local means of treatment in simple inflammation of the neck of the uterus and of its cavity, it will be seen that they consist principally in vaginal injections, hip-baths, local depletion, and the use of caustics. I will now enter into a few details respecting each of these various therapeutic agents.

*Injections.*—Vaginal injections, properly used, constitute a very valuable means of treatment in uterine inflammation. They may consist of water only, or of water containing some medicinal substance in solution.

Water alone as an injection to the vagina is very beneficial. Its repeated use washes away the morbid secretions from the inflamed surface, and keeps the entire mucous membrane of the cervix and vagina in a clean and cool state. The vagina being a contractile canal, a kind of longitudinal sphincter, when healthy and when its natural tonicity has not been impaired by disease or by frequent child-bearing, it closes on itself in its entire extent; thus embracing the uterine neck by its upper portion. As a necessary result of this structural condition, when the neck of the uterus is inflamed, the mucus se-

creted, unless very abundant—which it is not in slight affections—stagnates round the cervix, where it is always found in greater or less quantity on the introduction of the speculum, and where it tends to keep up irritation. When the vulva and vagina are likewise inflamed, there exists in many cases a spasmodic closure of the constrictor vagina at the vaginal outlet, which materially promotes this retention of the products of inflammation in the vaginal canal. These conditions, no doubt, partly explain why a slight inflammation is often perpetuated, and gives rise to ulceration, which, on an exposed surface, or on one that could cleanse itself of the morbid secretion, would run through its phases in the course of a few days, and end by resolution.

*Cold* water not only acts as a wash or lotion, but has a decided therapeutic effect. It is a powerful tonic and astringent, and may be used with great benefit when inflammation has been subdued, in order to give strength to the relaxed mucous membrane. When it is employed with this view, a large quantity, two or three pints or more, should be injected once or twice in the twenty-four hours, so as to keep up a continued stream for several minutes. The water may be either quite cool, or with the chill taken off, according to the feelings of the patient, the time of the year, and the external temperature. As a general rule, the colder the water within reasonable limits ( $60^{\circ}$  to  $70^{\circ}$ ) the more decidedly are its tonic effects obtained. I do not think, however, that cold water alone can be depended upon to subdue actual inflammation, as it has been asserted, especially if it has existed some time, and has assumed a chronic character. I have often known patients to use the cold douche for months under medical superintendence without subduing the inflammatory disease for which it was employed. I am therefore more in the habit of using cold-water injections as the after-treatment, to promote a renewal of healthy action, and to prevent a relapse, than as a means of treatment in actual disease.

*Medicated* injections may be either emollient, anodyne, or astringent. The emollient injections I generally employ are, milk-and-water, linseed tea, or the decoction of marshmallow, used tepid or cold. They frequently have a very soothing effect, and are principally useful when there is a considerable amount of irritation or inflammation about the vulva and vagina, which astringents do not allay, and may at first even increase. The effects of the decoction of poppy-heads are the same, only it has, in addition, a slight anodyne property. Plain water may be rendered anodyne by the addition of one or two teaspoonfuls of laudanum to the pint, or of a drachm or two of tincture of hyoscyamus. When the object in view, however, is to allay severe uterine pain, a much more powerful sedative result is obtained by the injection of these anodyne solutions into the rectum in smaller quantities.

Astringent injections are most valuable remedies in the treatment of inflammation of the lower segment of the uterus, and of the vagina and vulva. Those which I principally employ are, sulphate of alumen, sulphate of zinc, acetate of lead, solution of nitrate of silver, decoction



of oak bark, and solution of tannin. The first three I generally use in the proportion of a drachm to a pint of water, increasing or diminishing the strength according to circumstances. After many experimental essays, I have arrived at the conclusion that alum and the acetate of lead are by far the most efficacious of all astringents with the exception of the nitrate of silver; and as they are the cheapest and most easily met with, they are the agents I now most frequently resort to, especially in hospital practice. Inflammation of the mucous membrane of the vagina, even when of a blennorrhagic nature, very rarely resists their use, continued during two or three weeks, provided the injections be properly employed. At the same time it is worthy of remark, that the patients who use alum are liable to sudden recurrences of inflammatory action, or to sudden outbursts of irritation of the vulva, which are seldom met with when other astringents are employed. These exacerbations, however, always give way, in the course of a few days, to the use of emollients, generally leaving the patient in a much improved state. I do not often employ the solution of nitrate of silver, in ordinary practice, in consequence of its having to be injected with a glass syringe, which may break, and injure the patient; moreover, it discolors and destroys the linen. It is a very energetic and safe therapeutic agent; but as the same result can be obtained by lead, alum, and the other astringents which I have mentioned, I reserve it for exceptional cases. As a topical application to the vulva, when the seat of inflammation, and of the irritation which so often accompanies it, the solution of nitrate of silver, in various gradations of strength, is invaluable. (℞ss to ℥ij to water ℥j).

In very obstinate forms of vaginitis, however, which resist the continued use of the above agents, a strong solution of nitrate of silver, say two scruples or a drachm, to an ounce of water, is the remedy in which I place the greatest reliance. In such cases the solution should be applied by the medical attendant, and not by the patient herself, every second or third day. A good-sized glass speculum must be carefully introduced, the patient lying in a dorsal position, the pelvis elevated, so as to bring the cervix fully into the instrument. Half an ounce of the solution should be thrown into the speculum with a glass syringe, and the instrument must then be slowly withdrawn. Before doing so, however, a small piece of sponge, or a pledget of cotton, should be passed behind and all round the cervix by means of the forceps. Several minutes should be employed in the process of withdrawal, in order that the nitrate of silver solution may reach and blanch every region of the diseased vaginal mucous membrane, and lastly, the fluid should be carefully received in some small vase, to prevent the patient's linen being injured, and a pledget of cotton placed between the labia, with the same view. Should the state of the vulva require it, the lotion may be previously applied to all its folds. The contact of the solution with the vulva is the only painful part of the process, the vagina not being very sensitive; whereas the vulva and vaginal outlet are acutely so. If the state of the vulva does not require the same

treatment, all contact may be easily avoided, by depressing and emptying the speculum before it has reached the vaginal outlet. The above treatment is, of course, only applicable to cases of chronic vaginitis which resist ordinary means. Some of these cases probably have their origin in gonorrhoeal inflammation.

One important cause of the persistence and intractability of chronic vaginitis is, no doubt, the periodical return of menstruation. On the one hand, the congestion which precedes, accompanies, and follows menstruation, feeds and aggravates the inflammation, as we have elsewhere seen. On the other hand, all local treatment is naturally suspended during the menstrual epoch. Is it, therefore, surprising that we should constantly find patients who were nearly cured before menstruation commenced, nearly as bad as ever after it has ceased, especially when the flux is very free, is accompanied by great congestion, and lasts six or seven days? The disease has had ample time to return, as evidenced by the redness and sensibility of the mucous membrane, and by the abundant muco-purulent discharge. I was long myself a slave to the idea that menstruation should not be interfered with, but at last determined to try how far patients would bear the continuance of local treatment by the use of medicated injections, even during its persistence. I made them, therefore, continue the injections as usual, throughout the period, at least once in the twenty-four hours, merely using warm water instead of tepid. I at once found that in nine cases out of ten no pain was experienced, and that menstruation continued uninterruptedly. In some exceptional cases uterine pains and spasms are experienced, or the menstrual flux is diminished or arrested. Even in these instances, however, I am generally able to continue treatment by a little management, by the addition of laudanum to the injection, or by waiting for the first twenty-four or forty-eight hours of menstruation to pass before commencing the injections. The thorough establishment of this fact, the possibility of continuing the local treatment of vaginitis during menstruation, is unquestionably a great progress in the treatment of this disease, and has since proved, in my hands, of great value in the management of the more obstinate forms of the disease.

Injectons, although of such great importance as a means of cleansing the vagina from all morbid secretions, of diminishing uterine irritation, and of removing vaginal and vulvar inflammation, are generally powerless to subdue confirmed inflammation of the substance of the cervix, or of the mucous membrane by which its cavity is lined. Their inefficiency in inflammation of the cervical cavity is no doubt owing to the fluid not reaching the region affected. In inflammation of the substance of the cervix, a remedy which is only applied to the surface, can scarcely be expected to subdue deep-seated disease.

Not only is it *possible* to thus treat successfully non-ulcerated inflammation of the cervix, when slight, and of recent date, merely by emollient and astringent injections, rest and attention to general health,

without having recourse to instrumental examination, or to means of treatment requiring instrumental interference; but even slight ulcerations, unaccompanied by general inflammatory hypertrophy, and unattended with disease of the cervical canal, will sometimes give way under the influence of these means. In order to establish this fact, after ascertaining with the speculum the presence of a superficial ulceration of this description, I have repeatedly thus treated the patient, without using any other local application to the ulcerated surface, and have found the inflammation diminish, the ulceration decrease, and at last cicatrize.

It is only, however, in cases of slight ulceration, unaccompanied by general hypertrophy, or by cervical disease, a rare condition, that emollient and astringent injections alone succeed; and even in these exceptional cases the treatment cannot be depended upon. Moreover, the recovery, when it does take place, is so much more tedious than when cauterization of the ulcerated surface is resorted to, that I never feel authorized to recommend its adoption, if the existence of ulceration has once been instrumentally recognized. As long, however, as it is only suspected, and there does not seem sufficient grounds to warrant an examination, the employment of these local means of treatment is the rational course.

The knowledge of the fact that it is not impossible to cure the slighter forms of inflammation and ulceration of the uterine neck by vaginal injections, by rest, and by general medication, without the use of the speculum, must be our guide as to the course we ought to follow in these cases. If the symptoms are so obscure and so slight as not to warrant an immediate examination, digital or instrumental, we must have recourse at first to the means above enumerated. Should they fail, the scruples of the patient should be overcome, and a digital, and, if possible, instrumental examination made. We must bear in mind that however careful and minute the examination made with the finger may be, it can only enable us to form a *conjecture* as to the precise nature and extent of the disease; and that, consequently, unless we bring the speculum to our assistance, we must treat the patient, in a great measure, in the dark. When once the speculum has been employed for the purpose of diagnosis, its further use, if necessary, as a means of treatment, is not likely to meet with any obstacle on the part of the patient, and still less on that of her friends.

In order to obtain the full benefit derivable from vaginal injections, they should be properly and efficiently used; and this is seldom the case unless the patient be previously instructed how to proceed. When a fluid is injected into the vagina, the patient being in a stooping position, not only does it at once escape from the passage, but it may not reach the cervix, or the upper part of the vagina. For this to be insured, she should lie horizontally on her back, on the bed, the sofa, or the floor, with the pelvis slightly elevated, so that the fluid may gravitate towards the internal structures. The natural contractility of the vagina expels the water, it is true, but not until it has well



washed its entire surface. A small quantity of the injection often remains imprisoned, as it were, in the superior cul de sac of the vagina in the vicinity of the cervix, until the patient rises, when its own weight brings it away. To prevent the fluid, as it escapes, moistening the dress of the patient, I generally advise a flat bed-pan to be placed under the pelvis. It is by far the most effectual plan, although the female's own ingenuity will often find a substitute.

This mode of using vaginal injections almost necessarily requires the assistance of a second person, which forms the great objection. If the difficulty cannot be overcome, and the patient cannot manage the injection herself, it must be used in any position which is found practicable. The therapeutic effects will not be so decided, but still a great amount of local benefit will be obtained, especially if the tube be passed as high as possible.

The best instruments for vaginal injections are the syphon and the pump syringes, with a six-inch flexible vaginal tube, adapted to the longer tube, and presenting at its extremity four or six small holes, on the sides as well as at the end. The vaginal tube can, after introduction, be directed to the region of the vagina where the cervix lies, and *any* quantity of fluid can be injected without its being withdrawn. I seldom use less than a pint when the injection is a medicated one; and when it is merely water, I generally advise the patient to keep injecting for several minutes, irrespective of quantity. The ivory and metal syringes in general use are ridiculously small, and contain so little, that the effect produced on a large surface like the vagina must be insignificant, unless they are withdrawn and reintroduced many times. This, however, cannot be done without occasioning great external pain and irritation; moreover, these syringes have not the power to carry the fluid into the upper part of the vagina. It is entirely owing to the use of these inefficient syringes, and to no precaution being taken to insure the injection reaching the parts affected, that vaginal injections have fallen into discredit with some practitioners, who assert that they are of little use in the treatment of uterine inflammation. With the poorer class of patients, who cannot afford the expense of the pump syringe, I employ a large-sized four-ounce metal syringe, with a long curved extremity, similar to the one known by instrument makers as Clarke's syringe.

As injections are inefficient unless they reach the entire extent of the vaginal cavity, it is very important to ascertain whether such is the case, especially if their employment does not appear to be attended with the usual benefit. This can easily be ascertained by telling the patient to use an astringent injection—the alum one is the best for this purpose—an hour or two before the time of the examination. Unless the vaginal secretion be most profuse, all that part of the vaginal cavity which the injection has reached will be found contracted so as to admit with difficulty the introduction of the finger. If, however, it has only washed the lower part of the vagina, the finger, after passing the contracted region, finds the upper part moist and lax.

I seldom recommend vaginal injections to be used oftener than twice in the twenty-four hours, except in blennorrhagic inflammation; and generally find, that in the course of one, two, or three weeks, the vaginal inflammation is so modified that it is no longer necessary to employ them more than once in that period. When injections are resorted to in order to assist in subduing inflammation of the cervix, they may be continued twice a day for a much longer period, together with the other more powerful and more efficacious means that are employed. In these cases, the injection is merely an adjuvant to the treatment, which carries away all morbid secretions, prevents congestion and inflammation from again extending to the vagina, and assists the action of the remedies directed against the disease of the cervix.

Sometimes the use of a medicated vaginal injection is followed, within a few minutes, by very severe uterine and hypogastric spasms, which may last an hour, or more. The cause of this accident is difficult to discover, as it will occur in patients who have used the same injection for weeks before without any pain whatever. It may be owing to unusual coldness of the fluid used, to the employment of too great force, to the contact of the instrument with the sore surface, or to the penetration of the injection into the cervical canal. It generally leaves pain for some days, during which warm laudanum and water only should be used, and that very carefully. Afterwards, the medicated injection may be resumed with warmer water, more cautiously, that is, with less force, and with the addition of laudanum. In some exceptional cases, all kinds of vaginal injections, even warm emollient lotions, give rise to pain and spasm every time they are tried. When this occurs they must be tried with the addition of laudanum, and that failing, be abandoned for a time or altogether, and the treatment carried on without.

*Hip-baths—Entire Baths—Shower Baths.*—Decided benefit is often derived in the treatment of uterine inflammation in general from the use of *hip-baths*, provided they are neither too warm nor too cold. The temperature at which they should generally be taken is from 60° to 75° Fah., according to the season of the year, and to the feelings of the patient. At this temperature, their effect seems to be sedative; as they appear to moderate the rapidity of the pelvic circulation, and often to subdue pain. At a higher temperature they do harm, when habitually used, by drawing blood to the pelvis. As an occasional remedy against pain, however, especially at the beginning of menstruation, a warm hip-bath at 94° or 96° often affords great relief. When the temperature is lower than 60°, the momentary sedative effect is very decided, but the local depression is apt to be followed by violent reaction, and thus, in the end, more harm than good is done. The duration of the hip-bath may vary from three to ten or fifteen minutes, according to the season of the year, and to the patient's sensations.

*Entire Baths* are often beneficial, but more as general than as local

therapeutic agents. Warm baths may be occasionally taken with benefit, but their frequent repetition is weakening, and should be avoided. Cold or tepid baths are more useful in summer than in winter. In the latter season, a cold bath, and, indeed, to many, a tepid bath, is too disagreeable to be willingly borne. In the summer, on the contrary, a cold or tepid bath at  $65^{\circ}$  or  $70^{\circ}$  is generally very grateful, and may be resorted to every second, third, or fourth day, with great advantage, if it can be obtained without inconvenience or fatigue.

*Shower Baths* constitute a valuable means of invigorating the general health, and are all but equally applicable winter and summer, as the temperature of the water can be easily raised so as to meet the exigencies of the season. Many females, however, when reduced to a state of debility and weakness, by uterine disease, cannot bear their effects, however modified. Proper reaction not taking place, the use of the shower-bath is followed by headache, chills, and languor. At the same time, these very patients may, as they gain strength under treatment, subsequently derive benefit from its employment, the system having recovered its vital power. Cold or tepid sponging, at about  $65^{\circ}$ , followed by dry rubbing with a coarse towel or hair gloves, often agrees when the shower-bath cannot be borne. It may also be continued throughout the year with great advantage to the general health. Cold sponging is perhaps the form of bathing which admits of the most general and continued employment. Besides acting as a general tonic, it may be considered a most valuable preservative from catarrhal colds and sore-throats, through its keeping open the pores of the skin, which cold, damp weather is apt to close. The non-performance of the excretory functions of the skin in such weather no doubt tends greatly to produce the catarrhal affections then so prevalent, by throwing on the respiratory mucous membranes the excretory labor usually performed by the skin unassisted in warm dry weather.

*Local Depletion—Leeches—Scarification.*—Local depletion, by which I mean the abstraction of blood from the neck of the uterus itself, is as efficacious a means of subduing inflammatory disease in that organ as in the external regions of the body. Not only can we, by the moderate and careful application of leeches to the cervix uteri, or by scarification, moderate the intensity of inflammatory action, but we can also, by their assistance, diminish or remove those congested conditions of the uterus, and of the pelvic viscera generally, which so frequently precede, accompany, or follow menstruation, when the cervix or the body of the uterus is the seat of inflammation.

Leeches take easily, and fill well, when applied to the congested or inflamed neck of the uterus, and their application is generally followed by a considerable flow of blood. The same dependence cannot be placed on scarification, the incisions often affording but a few drops of blood. I have generally found that scarification only succeeds in occasioning a sufficient flow of blood to relieve congestion or inflam-



mation when the cervix presents dilated or varicose veins which can be divided. The incisions of the lancet, as also the bites of the leeches, all but invariably heal very readily.

The amount of blood lost from the application of a moderate number of leeches—four to six is the number I generally employ—may be said, in most cases, to depend on the degree of the congestion or inflammation. In some instances, however, they bleed so freely, that too much blood would be lost if the bleeding were not arrested, which may generally be easily accomplished by injecting into the vagina a strong solution of alum in cold water, say two drachms to a pint of water. I generally leave instructions with my patients thus to arrest the bleeding, should it not stop spontaneously, as soon as ever they feel faint or weak, or even much earlier, if the flow of blood is at all considerable. For want of these precautions, too much may certainly be lost from a very limited number of leeches, without any commensurate local benefit being derived. I always consider that more than is desirable has been abstracted, should the patient remain low, faint, and languid for several days. The object of applying the leeches is to reduce uterine inflammation or to remove uterine congestion, but not to drain the rest of the system through the womb, and thus to debilitate the patient.

Although, after the application of leeches to the cervix, more blood may be lost than is desirable, when the patient is left to herself, it is very seldom that a really alarming hemorrhage takes place. I have, however, on several occasions, known this accident to occur, and have even been obliged to plug the vagina. In one of these cases, the patient, a lady, aged fifty-two, had ceased to menstruate for five years, but had been laboring during all that time under inflammatory ulceration of the cervix. The disease had evidently occasioned and kept up great congestion, not only of the uterus, but also of the liver and other abdominal viscera. One of the leech-bites bled profusely for more than twenty-four hours, notwithstanding the repeated use of cold astringent injections. At the expiration of that time, I examined the cervix with the speculum, and found blood escaping freely from two leech-bites. I cauterized them with the nitrate of silver, and left two or three small pieces of sponge in contact with the neck of the uterus, which effectually stopped the bleeding. It is worthy of remark, that in all the cases in which I have seen hemorrhagic bleeding follow the application of leeches, there has been congestion of the liver and of the portal circulation. This fact I have already noticed at p. 109.

I have been able to test on a large scale the use of local depletion in uterine inflammation. In dispensary and hospital practice I have been all but obliged to attend my uterine patients without resorting to this means of treatment, as the assistance which is necessary for the local application of leeches cannot be commanded, and but very little blood can be drawn, as I have stated, in the generality of cases, by scarification. I have therefore availed myself of this circumstance,

to test how far uterine inflammation is susceptible of being treated and cured by other means. All the cases of inflammation given in the Appendix were so treated; and I have thus arrived at the conclusion, that local depletion, although a great adjuvant, is by no means indispensable to the successful treatment of inflammation of the uterus and of its cervix. Dispensary patients get well, as do those attended in private life, and with whom depletion can be occasionally resorted to. Only the latter get well sooner, and with less suffering: because, by the local abstraction of blood, the inflammation is sooner favorably modified, and the morbid congestions connected with menstruation, which so much aggravate the sufferings of patients, and so greatly retard their recovery, are prevented or removed.

At the same time I have become convinced, through the experience thus acquired, that if the general strength of the patient is permanently reduced, by frequent leeching, or by a too copious abstraction of blood from *occasional* leeching, she is placed in even a more unfavorable condition than the one with whom depletion is never employed.

To derive that benefit from leeches which they really can give, a medium course must be followed. They should only be applied once or twice at the commencement of the treatment, when the inflammation is acute and does not appear to be giving way to rest and general treatment, combined with hip-baths and emollient and astringent vaginal injections. They may then be considered, generally speaking, as having done all the good towards reducing the inflammation of which they are capable, unless it be exceptionally in connection with exacerbations occasioned by menstruation. Immediately before menstruation, the moderate local abstraction of blood may remove in a plethoric patient a degree of congestion that would otherwise prevent or retard its appearance, and thus insure an easy period. Even during menstruation, when the pain is agonizingly great, or hysterical convulsions are produced, if sedatives fail in giving relief, the application of leeches may be resorted to with all but certainty of immediate relief. But it is more especially after menstruation that their application to the cervix uteri is valuable. In inflammation of the neck of the uterus and of the uterine system generally, as we have elsewhere seen, after the menstrual flux has ceased, the uterus often seems incapable of expelling the blood which physiologically fills it during menstruation, and thus the organ remains throughout the menstrual interval in a state of morbid congestion, which is very unfavorable to the subsidence of inflammatory disease. This morbid congestion is removed by the application of leeches, which may be repeated every month or two, if the patient bears well the loss of blood, until the inflammation be subdued, should the case seem to require their use. Great care, however, must be taken that too much blood be not lost at these periodical bleedings, and the general condition of the patient must be taken into consideration. If she is weak and anemic, the leeches would probably do more harm than good.

In some instances, as we have elsewhere seen (page 57), uterine

congestion persists subsequently to menstruation, after the entire removal of all disease, even when the body of the uterus has not been involved, gives rise to uterine irritation, and to a host of distressing general symptoms, and would no doubt reproduce inflammatory action were it not removed. I have attended many cases in which, after years of immunity from actual disease, this uterine congestion was still frequently present after menstruation, and in so marked a manner as imperatively to require occasional assistance. If not relieved by a slight abstraction of blood, the tide of uterine congestion seems in these cases to increase after each menstruation, itself generally insufficient, and gradually to extend to the abdominal viscera, but more especially to the liver, until at last an explosion takes place in the shape of intense bilious vomiting and diarrhoea. Even in these cases, however, the action of leeches may be replaced, but not with advantage, by saline purgatives and other means of depletion. In dispensary practice and outdoor hospital practice the latter means are alone applicable as a rule. Moreover, in many cases in private life the general debility, the anemia of the patient, are so great as to preclude the recourse to depletion.

When leeches are applied to remove congestion, I generally use astringent injections for two days after the cessation of the menses, and apply them about the third day. I thus allow the patient the benefit of the physiological effort which nature makes to expel the surplus blood from the womb after menstruation, before I come to her assistance.

From what precedes, it is evident that although local depletion in uterine inflammation is a most valuable means of treatment, it may, however, be omitted. That such is the case is satisfactorily proved by my experience at the Western Dispensary, where I have treated and cured, without its assistance, several hundred patients, many of whom were laboring under the severest form of chronic uterine inflammation. Subsequent experience has fully confirmed these views.

Local depletion is much more easily dispensed with in the treatment of actual inflammation of the uterus and its cervix than in that of the congestive condition of the uterus and abdominal viscera which so frequently follow its long continued existence.

There is, indeed, much greater reason to fear that local depletion will be abused, now that it is becoming generally adopted in the treatment of these diseases, than that it will be neglected. I am continually seeing cases in which, in my opinion, it is or has been carried very much too far, and in which the constitution of the patient has been greatly weakened by the repeated abstraction of blood. This is an error the more to be guarded against, as the frequent repetition of local depletion does not remove nutritive hypertrophy of the neck of the uterus, or cure ulceration. I am now attending (1848) a lady, aged thirty-nine, who had leeches applied to the cervix twice a week for above *five years*, without the ulceration or hypertrophy being removed. At least I found both these morbid conditions existing to a very decided extent



when I examined her, and by the symptoms which had been present from the first, their origin could clearly be traced back many years, probably fifteen or twenty. She was reduced by this treatment to a complete state of anæmia, the blood being perfectly serous. I have frequently seen the same state of the general system induced by the repeated internal application of leeches, blindly followed up, for many weeks, on theoretical grounds only, and irrespective of the effects produced, the local disease remaining unmodified.

The application of leeches every week, or twice a week, for a lengthened period, as they are sometimes prescribed, appears to me rather to keep up local congestion than to diminish it, and consequently to increase the nutritive hypertrophy of the cervix and uterus, to which chronic inflammation gives rise. Leeches, when applied to the neck of the uterus, not only remove the blood which it contains, but appear to establish a flow to that organ from the abdominal viscera, as seems indicated by the patient generally feeling a dragging sensation all over the lower abdominal region when they begin to fill. This drawing of blood from the pelvic organs is in no degree prejudicial when there is subacute inflammation, or even congestion of the uterine system, because the surrounding viscera are also more or less congested, as we have seen, and the subtraction of blood from them, as well as from the uterus, relieves the entire abdominal circulation. But this is no longer the case when all acute inflammation has been subdued, and chronic inflammatory hypertrophy, and induration, with atonic ulceration, remain. These are conditions which must be remedied by other means of treatment. Repeated local bleeding, irrespective of menstrual congestion, merely keeps up a flow of blood to the uterus, and debilitates the system, not only without benefit, but with positive injury to the patient.

The tendency to abuse the use of leeches, shown by some practitioners, who have adopted it as an ordinary means of treatment, is promoted by their generally intrusting the application of them to midwives, who are unable to judge of the effect produced. It is too much the custom with them to prescribe a "course of leeching" as they would a "course of medicine," giving directions for leeches to be applied once or twice a week, for one, two, or more months, without ascertaining whether the continuance of depletion is necessary or not. In reality, it is very desirable that the practitioner should apply the leeches himself, if he can possibly afford the leisure; and the time employed need not be long. He is thereby enabled to form an opinion on various points which will afford him useful information, and guide him as to their repetition, besides having an opportunity of making a very careful examination of the uterine organs. Thus I often remark, that when there is great passive congestion of the uterine circulation, and the blood stagnates, as it were, in the organ, that which is drawn by the two or three first leeches is black and venous. The abstraction of this blood, re-establishing the freedom of the uterine circulation, that which flows subsequently, and which fills the leeches that fall off

last, is more florid and arterial; a satisfactory proof of their being required, and of their giving relief. The rapidity with which the leeches fill, and the extent to which both the enlarged cervix and uterus diminish immediately after the depletion, give important hints for subsequent treatment, only to be obtained by their personal application.

There is another reason why the leeches should, if possible, be applied by the medical attendant—to avoid pain. The external surface of the cervix has very little sensibility, and when the leeches fix on it the patient experiences very little or no pain. Generally speaking, indeed, she is only aware of their presence from the dragging sensation to which suction gives rise. The cavity of the cervix, on the contrary, is acutely sensitive, and if a leech fixes in it the patient may experience the most agonizing pain. Perhaps in these cases the leeches fix in the uterine cavity itself. I think I have scarcely ever seen more acute pain than that experienced by several of my patients under these circumstances. It comes on as an acute aching pain in the uterine region, gradually increases, and at last gives rise to uterine tormina of the most severe description, which return every few minutes, like labor-pains, as occurs with all uterine spasms. The most efficacious treatment is the inhalation of chloroform, or the injection of laudanum into the rectum. Twenty or thirty minims of the latter, injected in a teacupful of warm water, if retained, generally lull the spasms in the course of fifteen or twenty minutes. When no remedial means are adopted they may last for several hours before they die away. I have known the application of leeches to be followed by a severe attack of nettle-rash, which, however, soon disappears.

As the orifice of the cervical cavity, when inflamed and ulcerated, is open, this accident not unfrequently occurs in such cases if no means are adopted to prevent the leeches fixing in this region—and this whether a closed or an open leech-tube be employed. The only effectual precaution that can be taken consists in the introduction of a small cone of sponge or cotton into the open os. The plug should be introduced as firmly as possible, and tied to a piece of thread, by means of which it may subsequently be extracted. If this is efficiently done, no fear of pain need be entertained; but it is too delicate an operation to be intrusted to midwives, so that if leeches are applied by them, the patient must run the risk of its occurrence. When the leeches fix inside the cervical or uterine cavity they may be lost, and only appear again an hour or more after their application.

Leeches may be applied to the cervix uteri by means either of open tubes or of tubes closed at their extremity so as to prevent the possibility of their escape. In the latter case the closed end has several small holes of sufficient size to allow the leeches fixing on the part with which the tube is placed in contact. In the former the ordinary conical or cylindrical speculum is the best instrument that can be used. The application of leeches by means of the closed leech-tube is generally tedious, and the leeches do not fill by any means so promptly

as when an open tube is used; moreover, it does not always prevent their fixing in the cavity of the cervix, if the tube is in contact with the open os uteri. An open tube is certainly much to be preferred.

When the cervix has been brought within the field of the instrument, and the os, if open, has been closed as above directed, the leeches should be put into the speculum and pushed close up to the cervix by a plug of sponge or cotton; they are thus imprisoned in the instrument between the cervix and the plug. All that are inclined to bite do so immediately, whilst those that are not generally work their way out in the course of two or three minutes, between the vagina and the speculum. When leeches have thus come away, it is of very little use to reintroduce them, as they seldom take. The plug may be left in about fifteen minutes, and on being withdrawn it will generally be found that they have filled, and that some have already come way. If the plug is allowed to remain longer, those that have filled often escape by the side of the instrument. If they have got between the vagina and the speculum, and have not appeared externally, they fall into the instrument as it is slowly withdrawn. The entire operation need not last more than half an hour.

Cupping from the loins was formerly much resorted to, if inflammation or congestion of the uterus was suspected. It certainly gives relief, but not so surely, nor with so much benefit to the local disease, as the direct abstraction of blood from the uterus. The application of leeches to the sacro-lumbar region is as efficacious as cupping, and less painful, and I should often have recourse to this means of depletion, were it not that I wish the patient, generally a more or less debilitated female, to derive as much benefit as possible from every ounce of blood she loses. I consequently prefer, when feasible, applying the leeches to the neck of the uterus itself.

Lisfranc used to resort very frequently to the monthly abstraction from the arm of a small quantity of blood, about three or four ounces, at the period of menstruation, in the treatment of chronic inflammation of the uterine organs. His object was to establish a derivative action, which he thought prevented the exacerbations so often observed at this time. His treatment, however, has not been generally adopted. I cannot say that I have seen sufficient benefit accrue from it to counterbalance the weakening effect which it produces on the system.

*Purgatives.*—In inflammation of the neck of the uterus, and of the uterus generally, purgatives are often of great value. In all cases it is right, by their means, to clear the bowels at first, as the presence of feces in the intestines, and especially in the rectum, is very prejudicial. Throughout the entire course of the disease, also, whether acute or chronic, benefit may be derived from their assistance. The serous evacuations which follow the use of saline and other purgatives, tend usefully to diminish the congestion of the pelvic and abdominal viscera, and in weak and debilitated patients may often be depended upon instead of depletion by leeches or scarification. In acute disease



purgatives may be considered one of the means applicable to diminish and subdue the inflammatory action. In chronic disease it is more especially after menstruation that they are indicated; as is the case likewise with leeches. The object of their administration at this epoch is to assist in dispelling the uterine and pelvic congestion which so often characterizes the few days that follow the cessation of the menses. Purgatives must not, however, be abused, or used habitually merely to relieve the bowels, if it can be avoided.

*Cauterization.*—The only caustic that can be used with advantage in inflammation of the cervix without ulceration or hypertrophy, is the nitrate of silver, which acts, however, more as an astringent than as a caustic. The solid nitrate of silver, or a strong solution of it, should be applied every five, four, or three days, to the inflamed mucous membrane covering the cervix. This is also the mode of treatment to which I have principally recourse, in the first instance, in inflammation of the cavity of the uterine neck, carrying the caustic into the cervical cavity as far as it will pass. When inflammation assumes the pseudo-membranous form, and white patches exist on the cervix, more powerful agents, however, may be necessary to modify the vitality of the diseased surface. This is a most intractable form of inflammation. In some cases it resists every kind of local treatment, proving alike rebellious to emollients, to depletion, and to counter-irritation, combined with the most careful constitutional treatment. I have repeatedly been obliged in such cases to suspend all local treatment, and to endeavor, by change of air and climate, to modify the constitution of the patient. This species of inflammation is evidently in some instance connected with some obscure constitutional condition which perpetuates its existence. As it has been considered syphilitic, a mild mercurial course might be also tried. Fortunately it is not of common occurrence.

In some cases of inflammation of the cervical cavity, owing, no doubt, to the disease lurking in the mucous follicles, concealed between the rugæ of the arbor vitæ, although the mucous membrane be not ulcerated, nothing but the application of the more powerful caustics, the acid nitrate of mercury, or even the potassa cum calce, so modifies the vitality of the diseased tissues, as radically to cure the inflammation. It may appear cured before menstruation sets in—the os being closed, and there being no discharge—but if an examination be made a few days after the menses have ceased, the os is again found open, and a stream of muco-pus issuing from it. The application of these remedies to the cervical canal, a delicate point in practice, will be discussed in the next section.

*Inflammation of the Neck of the Uterus accompanied by Ulceration and Hypertrophy.*

When ulceration and hypertrophy of the neck of the uterus are present, in addition to the local means of treatment above enumerated, others become necessary.

Very slight and recent ulcerations of the neck of the uterus, unaccompanied by disease of the cervical canal, may, as I have already stated, be treated and cured merely by emollient and medicated vaginal injections, rest, and attention to the general health. The attempt, however, thus to attain such a result, is so frequently unsuccessful that it would be irrational to depend on these means alone, once the existence of ulcerative disease has been instrumentally ascertained. They can only rationally be resorted to as the sole means of treatment when there is doubt as to the presence of ulceration, and in order to avoid, if possible, the necessity of instrumental examination.

The general inefficiency of medicated injections to cure inflammation in these cases is no doubt, in a great measure, owing to the latter almost invariably penetrating into the cavity of the os, where the injection cannot reach. Consequently, although great improvement may be experienced by the patient, the treatment adopted modifying to a great extent the local inflammatory symptoms, the disease is not cured, and on the suspension of the means used she soon relapses into her former state. This is the reason, *if the uterine symptoms are decided*, and the patient can make up her mind to submit, that I generally advise an examination, except with unmarried females, as a preliminary to any treatment. By endeavoring to treat the disease without examination, generally speaking, the case is merely rendered more obscure, and the day of trial deferred. The patient often improves for a time, and thinks she shall get well, but after continual relapses, she is at last obliged to allow her state to be thoroughly investigated. If, as mostly happens, a morbid condition is then found that can only be removed by local treatment, the time previously spent in attempting to cure the disease may be considered as in a great measure lost. This frequently occurs with the unmarried females presenting symptoms of inflammatory uterine disease, respecting whom I am consulted. When I am the first practitioner applied to, I generally commence with the means above enumerated, with a view to avoid the painful necessity of instrumental examination. After losing more or less time, however, I am often at last obliged to insist on an examination, and then find that the want of success is owing to the existence of lesions which require more energetic and more efficient treatment.

*Cauterization.*—Inflammation, with or without ulceration, of the cervix uteri, or of the cervical cavity, has a remarkable tendency to perpetuate itself indefinitely, notwithstanding the removal of all acute and subacute inflammatory action. This tendency is, no doubt, increased by the periodical sanguineous congestions to which menstruation physiologically exposes the inflamed tissues. Should the ulceration not yield, and it seldom does, to antiphlogistic means, including astringents directed as above, the most efficacious treatment, indeed the only one that can be depended upon, is the direct stimulation of the diseased and ulcerated surface, so as to modify its vitality in such a manner as to induce healthy action, and, finally, cicatrization. This end is obtained by the use of caustics of varied strength, according

to the nature and the extent of the disease, its chronicity, and the effects obtained.

In the application of these two principles resides the entire theory of the chronic local treatment of ulcerative inflammation especially, not only in the uterine neck, but in every part of the economy. We must first subdue acute or subacute inflammation by emollients, depletion, astringents, and general treatment; and when these agencies fail to restore healthy action, modify by direct stimulation the vitality of the diseased surface. Thus caustics are resorted to, especially with a view to substitute healthy, reparative, manageable inflammation, when that in existence is unhealthy, destructive, and unmanageable. This appears to me the true *modus operandi* of caustics and of the actual cautery, whenever and wherever they are used in the treatment of morbid inflammatory conditions, for a minute ulcer of the cornea as well as for hospital gangrene. The inflammation set up by nature to throw off the eschar artificially produced, is naturally of a healthy, reparative kind, which admits of being controlled, and brought to a favorable termination, *provided the stimulation be sufficiently powerful*. Thence it is that if one caustic, the nitrate of silver, for instance, does not produce the desired effect, another more powerful, such as the acid nitrate of mercury, may; and that failing, a still more powerful agent, such as the actual cautery or caustic potash, will certainly succeed. This law—for law it may be termed—deserves a more general recognition both in medicine and in surgery than it has hitherto obtained, for it points out the true mode of treatment in many intractable forms of chronic inflammatory disease. It is the principle on which the treatment of chronic inflammatory diseases of the skin is founded.

Although, as I have stated, these principles apply to ulcerative inflammation in any region of the body, it is more especially in the treatment of ulceration existing on the mucous surfaces at the various openings of the body, that they are exemplified. Thus it is that we find cauterization to be the principal resource in all ulcerations of the nares, mouth, fauces, and anus, as well as in those of the external genital organs, both of the male and the female. In all these situations, cauterization presents an additional advantage to those which it offers on a free ulcerated surface. The eschar which forms on the ulceration protects it efficiently from the contact of the various fluids excreted through, and secreted by the organ, the mucous membrane of which is attacked, and thus allows the process of reparation to take place undisturbed.

The progress of inflammation and ulceration is, generally speaking, at once arrested by cauterization. The congestion and redness of the cervix diminish visibly, the granulations become smaller and healthier, the escape of blood is stopped, and the purulent secretion assumes the character of laudable pus, if it has not presented it before. When cauterization is suspended, the ulceration generally continues to improve for a short period, and then remains stationary. But if left



entirely to itself, it is all but certain to relapse, after a variable period, however advanced the healing process may have previously been.

The first evidence of cicatrization takes place at the circumference. The margin of the ulcerated surface loses its well-defined character, and mingles imperceptibly with the red, inflamed, but not ulcerated, mucous membrane. As the latter returns to its natural pale color, a film of white cicatricial tissue appears around the ulceration, and gradually progresses to the centre. Towards the end of the treatment, points of cicatrization will occasionally appear in the centre of the ulcerated surface, and by their gradual extension abridge the process. When the ulceration is cicatrized, it presents, for some time, a pale rosy, or ash-colored hue, which distinguishes it from the natural color of the healthy cervix. It gradually becomes, however, so much like the surrounding tissues, that after a few months it is often impossible to say where the ulceration existed.

The fibrous framework of the mucous membrane covering the cervix is so slight, that the healing of an ulceration, however deep, is never followed by the formation of hard cicatrices, as in the healing of ulcerations of the skin, when they involve its fibrous structure. The mucous membrane of the cervix, indeed, appears, as it were, to be renewed. Even when a deep slough has been formed by the action of a powerful caustic, such as potassa fusa, or the actual cautery, in the course of a few months, or even weeks, all trace of the cicatrix disappears, and the cervix again becomes soft and supple.

The last part to heal in an ulceration of the neck of the uterus, is that which dips into the cervical cavity, inside the os. Thence the absolute necessity of separating the lips of the os with a bivalve speculum in a good light, and of carefully exploring the state of the cavity of the cervix before the disease be pronounced cured. Unless this precaution be adopted, in a very considerable proportion of the cases treated, the ulceration will only be partially cured, and what is erroneously considered a relapse, will occur in the course of a few months. In reality, the relapse in such cases is nothing more than the disease creeping out of the cavity of the cervix, where it had been lurking from the first.

A few years ago (1848), in this country, ulcerative disease of the uterine neck was seldom detected, even by the most eminent uterine practitioners of the day. In a large proportion of the chronic cases of this description, for which I was then consulted in private practice, the very existence of the inflammatory ulceration from which the patient had been suffering for many years had not been even suspected, notwithstanding many valued opinions had been taken. Since the attention of the profession was directed, in the first edition of this work, to the frequency of this form of disease, and since the doctrines therein promulgated have been adopted and acted upon by many leading practitioners, I have observed fewer instances of non-detection of ulcerative disease. I am still, however, continually witnessing cases in which ulceration has thus been imper-

fectly recognized and treated, the external or cervical ulceration only having been attended to, and the internal ulcerative element remaining unperceived. This error is committed in Paris, as well as in this country. I never recollect seeing the cervical cavity examined, as I now invariably examine it, when I held office in the Paris hospitals; and in what has been written by French pathologists on uterine diseases, there is no evidence of their being acquainted with the fact of inflammation so frequently penetrating and lurking in the cavity of the cervix. On the contrary, they mistake for indications of internal metritis the discharges which exist when the cervical cavity is inflamed or ulcerated.

The agents which may be used for cauterization of the cervix are various. The principal are the nitrate of silver, the mineral acids, and more especially the acid nitrate of mercury, potassa fusa and potassa cum calce, and the actual cautery. We will successively examine each of these agents.

The most generally employed, and at the same time the least energetic caustic, is the nitrate of silver. Indeed, it scarcely deserves the name of caustic, so superficial is its action. When freely applied in substance to the granulations which cover the ulcerated surface, it forms a white film or eschar, the thickness of which is seldom greater than that of a piece of writing-paper. This eschar is thrown off, slate-colored, entire or piecemeal, about the third or fourth day. On the latter day, the surface to which the solid nitrate of silver has been applied, is generally found red, irritable, and bleeding. On the fifth day, however, all apparent irritability and tendency to bleed disappear, and by this or the following day the amount of benefit to be obtained from the application is generally ascertained, the ulceration seldom improving subsequently. If left to itself, indeed, it soon again becomes morbidly irritable, and occasions local pain and sympathetic reaction on the general system. When a solution of nitrate of silver is used, these effects are obtained in a shorter space of time, and it may consequently be applied at shorter intervals than every fifth or sixth day, the period which should be allowed to elapse between the applications of the solid nitrate. In some cases, a strong solution thus employed may be more beneficial than the solid nitrate: when, for instance, its application occasions great pain, great nervous depression, or a very abundant and weakening discharge of blood or mucus. As, however, the solution entails a more frequent use of instrumental means, the drawback in the treatment of these diseases, I generally confine myself to the use of the solid caustic.

The periodical application of the nitrate of silver to the ulceration often suffices to bring on healthy action, and to cause the ulceration, if small and recent, to heal in a few weeks. Even when it is covered with fungous, livid granulations, and secretes an abundant sanguineo-muco-purulent discharge, the solid caustic, freely applied, generally arrests the exudation of blood, and brings the ulcer to a clean, healthy, and comparatively dry state after two or three applications;

although it is seldom sufficiently powerful to modify the vitality of such a diseased surface, so as to produce cicatrization. In these cases, however, the solid nitrate of silver is a most valuable agent, as it is applicable in a stage of the disease when other and more powerful remedies can scarcely be used. Owing to the very limited cauterizing powers of the nitrate of silver, it may be employed without the precautions which the more powerful caustics imperatively require. Its being dissolved to a considerable extent by the blood and mucus which freely exude from these ulcerations, is of no consequence; so far from doing harm to the surrounding tissues, if it runs on and touches them, it acts, on the contrary, beneficially, as a powerful astringent, if they are at all inflamed, which they generally are. When applied to a non-ulcerated mucous surface, it merely seems to produce a white film or epithelial eschar, to blister the surface as it were. The separation of this eschar is never followed by ulceration or excoriation, all evidence of its having been applied disappearing in a few days.

If the ulceration penetrates into the cervical cavity, the solid nitrate of silver may be pushed into it as far as it will enter, or a camel hair pencil, loaded with a saturated solution, may be used in the same way. There is no fear, as we have seen, of penetrating too far, as the cervical canal is only sufficiently dilated to admit the brush, or the caustic cylinder, in the region to which inflammatory action extends. Beyond the point where inflammation ceases, the natural and healthy coarctation of the cervical canal will prevent their passing. I prefer the brush when the inflammation penetrates very far, lest the stick of caustic should break. This has occurred to me more than once, but I have never had any difficulty in extracting the fragment, either by means of the speculum forceps, the end of which I have had purposely made small,<sup>1</sup> or by the uterine sound. Thence the necessity of examining the piece of caustic that has been used, when it is withdrawn, in order to see that it is entire.

On one occasion, when I had omitted this precaution, I only perceived, a couple of minutes after I had withdrawn the speculum, that a small piece of the solid nitrate, about a quarter of an inch in length, had broken off, and remained within the cervical cavity. Although not in the least alarmed at the circumstance—for I knew that it could do no harm, that the nitrate of silver would merely dissolve, and spread in width and not *in depth*—I endeavored, but in vain, to reapply the speculum. The caustic, in dissolving, had acted as an astringent on the mucous membrane of the upper part of the vagina with which it came in contact, and so corrugated it that I found it would be impossible to reintroduce the instrument without giving great pain. I therefore merely requested my patient to inject at once several pints of cold water. There was more blood lost than usual for three or

<sup>1</sup> This instrument, as also those which I shall have to mention hereafter, has been made for me by Mr. Coxeter, of Grafton-street East, who has shown great patience, ingenuity, and skill in conforming to my wishes and designs.



four days subsequently, and there was more pain than usual; but on examining her on the sixth day, I could find no evidence whatever of what had occurred. There was no loss of substance in the cervical cavity, which appeared rosy and healthy; and the mucous membrane of the upper vaginal region was in a less inflamed and more healthy state than on my previous examination.

The application of the nitrate of silver to the cervix, externally, whether it be ulcerated or not, is attended and followed by slight pain only in most cases, although in some few sensitive women the pain experienced is considerable. This is also the case when much more powerful caustics are resorted to; but it is not so when the caustic is applied to the cervical cavity. This region, on the contrary, is sensitive with most females, although much less so than the external integument, or than the mucous membrane lining the external orifices of the natural cavities. Some patients always suffer considerable pain when it is cauterized: but the pain is never so severe as that which, as we have seen, may follow the biting of a leech. This is rather a singular fact, as it is difficult to explain how the mere fixing of a leech on a mucous membrane should occasionally give rise to agonizing uterine tormina, whereas the same region may be irritated by the most powerful caustics with comparative impunity from suffering.

The pain which follows the application of caustic to these regions is sometimes very prolonged; but its duration is very variable in different persons, and even in the same persons at different times. It may last from half an hour to two, three, or four days. Generally speaking, it is merely an exacerbation of former pains in the back, the ovarian regions, or lower hypogastrium, and shows at once to the patient the connection which exists between the local disease and the sensations formerly experienced. Sometimes the principal pain is felt chiefly in the lower hypogastric region behind the pubis, in the region where the neck of the uterus is situated, and in the very spot where the caustic has been applied. But this is the exception; in the majority of instances, although a smarting sensation is felt in this region, that of which the patient principally complains is the exacerbation of the ordinary ovarian and lumbar pains.

The application of caustic frequently gives no pain, in the first stage of the treatment, when the sore is indolent; whereas when the vitality of the ulceration has been modified by treatment its use becomes acutely painful. The change is rather trying to the patient, who is apt to think herself worse on this account, unless, from the first, apprised of the possibility of its occurrence. This takes place more especially with those females who, although suffering from a considerable amount of uterine disease, present little or no local evidence of its existence.

For the first day or two after the application of the solid nitrate of silver there is generally a more or less abundant sanguinolent or muco-purulent discharge, which ceases or diminishes on the third, fourth, or fifth day. This discharge is sometimes so very abundant

as perceptibly to debilitate the patient. When this is the case, it may be expedient to cauterize half only of the diseased surface at a time, or to use a solution of the salt, or some other more powerful caustic which has not the same effect. With some patients the solid nitrate of silver is absolutely inapplicable from this cause. It is more especially when the ulceration is very luxuriant, and with pregnant women, that I have noticed this result. With the latter the application of the nitrate of silver is occasionally followed by a very copious flow of blood. When this occurs I resort to other agents.

After the pain, slight or severe, occasioned by the application of the caustic has abated, there is generally a lull in the local symptoms; the patient feeling easier than before the interference. This is owing, no doubt, to the irritability of the ulcerated surface having been modified by the cauterization, as we see photophobia and pain in ulceration of the cornea temporarily removed, or greatly modified, by the same means. If nothing more is done, the ulceration again becomes irritable in the course of a few days, and a revival of pain takes place. The patient herself is thus made aware of the necessity for a repetition of the cauterization, and will often spontaneously urge its being resorted to again.

Even when recourse is had to other caustics, the nitrate of silver, solid or in solution, is a most useful agent as a topical application in the interval of their application. The more powerful caustics should be used only at lengthened intervals, to rouse or modify energetically the vitality of the diseased surface; and it is by the nitrate of silver that the new action thus created should be moderated and guided. Its occasional employment serves as a dressing to the ulcerated surface, prevents its becoming irritable and unhealthy, keeps down the granulations, and thus powerfully assists in bringing about cicatrization.

The mineral acids which may be employed when a more energetic caustic than the nitrate of silver is required, are, the acid nitrate of mercury, nitric acid, hydrochloric acid, and sulphuric acid. I have given each of these preparations in succession lengthened trials, employing them separately and successively in all cases in which this form of caustic appeared indicated, and see no reason for modifying the opinion which I have long entertained—viz., that the acid nitrate of mercury is more efficacious in its action than the other acids. It appears to bring the ulceration more rapidly into a healthy, healing state. After that, I prefer pure nitric acid, although the extent to which it fumes on being applied is a slight disadvantage. Any of these acids, however, may be employed in the absence of the others.

The acid nitrate of mercury is a caustic much used by French practitioners in the treatment of syphilitic ulceration, and of unhealthy ulceration generally. It is prepared in the following manner: To 100 parts of mercury add 200 parts of nitric acid; dissolve the mercury in the acid with the aid of heat, and evaporate to 225 parts.

This preparation is a dense solution of deuto-nitrate of mercury, in an excess of acid, and contains 71 per 100 of the deuto-nitrate.

The acid nitrate of mercury is a much more powerful caustic than the nitrate of silver. It gives rise to a white eschar, which falls piecemeal about the sixth day, and sometimes not until later. I generally use it pure, but sometimes diluted with a little water. In the former case, the beneficial effect is only obtained by the seventh or eighth day, and it should not, consequently, be reapplied sooner. It is seldom, however, advisable to reapply the acid nitrate several weeks in succession. Generally speaking, twelve or fourteen days should be allowed to elapse between two cauterizations, the nitrate of silver, solid or in solution, being used in the interim. When the ulceration is large, and the granulations are redundant and unhealthy, this caustic exercises a very prompt and beneficial influence, often cleansing and modifying the sore in one application, even when the nitrate of silver has failed. In slight ulcerations, however, it is too powerful a remedy, and may aggravate the inflammation if injudiciously employed.

The application of this preparation of mercury to the ulcerated cervix may be followed by the specific effect of mercury—salivation. I have several times seen and known salivation in a mild form thus to occur from a single application of the acid nitrate. These very exceptional cases may be compared to those in which a few grains of blue pill or calomel produce a similar effect.

The mineral acids being energetic agents, great care should be taken in their application. Wherever they touch they produce a sore, although a superficial one, therefore great attention should be paid to circumscribe the action of the acid to the part on which it has to be applied. I use for the purpose small dossils of cotton, placed between the cleft of a very small and narrow platinum fork, fixed at one end of a long silver caustic-holder. A common stilet or piece of wire to which the cotton can be tied, will also answer the purpose. The cotton being firmly fixed, it should be dipped in the fluid caustic, care being taken, by pressing it against the sides of the bottle, or on a dry piece of cotton, that there be no superfluity of acid. This precaution is even more necessary when the acid has to be introduced into the cavity of the cervix, as often occurs. If the cotton contains too much of the caustic, the pressure of the parietes of the cervical canal squeezes it out, and it runs on the lower lip of the cervix, which is thus injured by its action.

When the acid has been applied, the surface of the cauterized tissues should be wiped quite dry before the speculum be withdrawn. If a bivalve speculum has been used to separate the lips of the cervix, and the cavity of the cervix has been cauterized, the valves should first be allowed to close, and the fluid which exudes from the os should be wiped away before the instrument is extracted. If this is *carefully* done, it is not necessary to inject water into the vagina to neutralize the effect of any uncombined acid, a precaution otherwise desirable.



Owing to the neglect of these minute precautions, I have repeatedly seen considerable temporary mischief occasioned by practitioners who were acting under my directions, the caustic having been allowed to run on the cervix and vagina, and thus to produce extensive inflammation and ulceration. The lesions thus created are not dangerous, as they are superficial, and readily heal, but they often give rise to great pain, and to a very abundant discharge, which alarms the patient. A slight and additional amount of inflammation and ulceration of the cervix and vagina thus accidentally produced, will give much more pain than the most energetic cauterization by *potassa fusa* or the actual cautery.

In the majority of cases, judicious general treatment, the use of injections, and local depletion, combined with the persevering and careful application of the caustics above enumerated, suffice to subdue inflammation, and to induce cicatrization of the ulcerated surface, both outside and inside the os uteri, in the course of from four weeks to two or three months, according to the extent of the disease, its chronicity, and the constitution of the patient. If she has always suffered from dysmenorrhœa, and if menstruation exacerbates the local inflammatory symptoms, and gives rise to uterine congestion, the treatment is nearly always tedious. In these cases, the disease, so far from progressing during menstruation, absolutely retrogrades; and it is often only a week or ten days after the menses have ceased that the patient is as well as she was before they began.

In some instances, however, all the means enumerated fail to modify the morbid vitality of the diseased tissues, so as to insure a cure. The ulceration heals to a certain point, and then cicatrization seems to come to a stand; or, the ulceration healing, the healed surface and the surrounding tissues remain red and angry, having become the seat of chronic inflammation. Generally speaking it is in the cavity of the os uteri that the disease thus proves rebellious. When this is the case, the only means by which we can insure cicatrization, or restore the cervix to a healthy state, is by modifying the vitality of the diseased surface still more profoundly than is possible by the mineral acids. The agents by which this may be accomplished are *potassa fusa*, and the actual cautery.

The application of *potassa fusa* to the treatment of intractable ulceration of the neck of the uterus, and of inflammatory hypertrophy of the cervix, is due to M. Gendrin, the eminent Paris physician. It was in his wards that I learned the value of this important addition to the means of treating intractable inflammatory affections of the neck of the uterus previously known. Although by this agent, and by the actual cautery, cases otherwise all but incurable are susceptible of easy and radical cure, both these means of treatment, when I left Paris in 1843, were all but confined to M. Gendrin and M. Jobert de Lamballe, the practitioners who first introduced them. In the first edition of this work, I gave, at considerable length, the results of my experience as to the practical importance of *potassa fusa* as a cauterizing agent in the more severe forms of these diseases.

Subsequently I made many attempts to simplify the application of potassa fusa, and to divest it of the dangers which, unless the very greatest care be taken, must necessarily be connected with the use of so potent an escharotic, and am warranted in stating that I fully succeeded in so doing. (1848.)

Potassa fusa, or the hydrate of potassa, is, as is generally known, one of the most powerful caustics with which we are acquainted, destroying in a few seconds the living animal tissues with which it is brought in contact. Moreover, it is a caustic which not only acts superficially, like those whose action we have studied, but which may be made to destroy the parts to which it is applied, to nearly any depth, by merely prolonging its contact with them. These are the properties which have induced surgeons to choose potassa fusa for the establishing of issues, the entire thickness of the skin being destroyed by its agency in an extremely short space of time—a few minutes. The hydrate of potassa, however, is so very fusible, and consequently so liable to run on the adjoining parts, that it can scarcely be employed in its uncombined state, at least not where it is necessary to limit very exactly the extent of the tissues to be destroyed. It has therefore long been combined in practice with quicklime, which, without impairing to any extent its cauterizing power, prevents its deliquescence, and renders it possible to apply it in the shape of a paste to a circumscribed surface. The potassa cum calce of the London Pharmacopœia is a combination of this description, being composed of equal parts of hydrate of potassa and quicklime. The same preparation, under the appellation of Vienna paste, is in general use on the Continent for establishing issues.

Not liking to use pure potassa fusa to the neck of the uterus in the cases in which he saw that a more powerful escharotic than those which we have described was necessary, M. Gendrin fixed upon the potassa cum calce made into a paste, with a few drops of alcohol, which he applied in the following manner: A large conical speculum being first introduced, the uterine neck is made to enter its orifice; or should the cervix be too voluminous, the speculum is firmly pressed on the part which it is intended to cauterize, great care being taken not to inclose a fold of the vagina between the rim of the speculum and the cervix. About as much of the paste as would cover a four-penny-piece, a line in thickness, is placed on a triangular piece of diachylon plaster, one end of which is inserted in the cleft extremity of a common bougie. The caustic paste is then carried, by means of the bougie, to the cervix, and carried to the centre of the part comprised within the speculum. With the long forceps cotton is placed carefully all round the spot on which the caustic paste is applied, so as completely to protect the neighboring parts: and the bougie having been withdrawn, the speculum is two-thirds filled with cotton or lint, which is firmly pressed against the uterine neck. The speculum is then slowly extracted, the cotton which fills it being at the same time forcibly pushed back in the vagina with the forceps, as the specu-

lum is withdrawn, so that the vagina remains thoroughly plugged. If this is carefully done, the caustic cannot fuse and injure the parietes of the vagina. In about fifteen or twenty minutes the cotton or lint must be carefully withdrawn by means of a bivalve speculum gradually introduced, and an eschar, of the size of a shilling, or rather larger, will be found where the caustic was applied. The vagina should then be washed out with a little tepid vinegar and water, complete rest in bed enjoined, and emollient injections employed until the separation of the eschar, which takes place from the fifth to the eighth day.

Enlightened by subsequent experience, I should now reject this mode of applying the Vienna paste, even did I employ the latter, which I have long ceased to do, having discovered a more safe and efficacious way of using the potassa cum calce. Although I for years saw M. Gendrin follow this mode of operation, and in former days often adopted it myself, without once witnessing the extension of the eschar to the vagina, still I think it demands too much caution and instrumental experience to be retained, especially as it is possible to apply potassa fusa, either combined with lime or alone, with equal efficacy and greater safety, in a more simple manner.

The extraction of the speculum after the application of the caustic paste evidently depriving the vagina of the protection which the instrument affords it, I first determined to leave the speculum in situ until the process of cauterization was entirely accomplished. With this view, after getting the cervix well into the field of the large conical speculum, I introduced pledgets of cotton, steeped in acetic acid water, between the speculum and the cervix in its entire circumference, so as completely to isolate the organ. As before, I applied the paste to the surface to be cauterized, and when the desired effect was obtained carefully wiped it away and washed the eschar with diluted acetic acid. Then placing on the eschar, as a dressing to prevent its coming in contact with the surrounding parts, a large pledget of cotton soaked in cold vinegar-and-water and tied to a piece of strong silk, I withdrew the speculum.

This plan succeeded so well, and appeared so thoroughly to isolate the cervix, and to prevent the possibility of the surrounding parts being compromised, that I determined to use the pure potassa fusa instead of the potassa cum calce, on account of the greater intensity of its action. As an additional precaution, however, I first applied the nitrate of silver freely to the lower lip of the cervix, in order more effectually to guarantee it from the liquefied potassa, which invariably runs on the most depending part when the pure hydrate is used. The eschar formed by the nitrate of silver, superficial as it is, prevents the part which it covers from being acted upon. The lower lip of the neck of the uterus being protected by the nitrate-of-silver eschar, and the vagina by the pledgets of lint soaked in dilute acetic acid and pushed carefully in between the lower valve or circumference of the speculum and the cervix, there can be no risk of the potassa, although so very fusible, extending to parts which it is not intended to caute-



rize. I long used it exclusively, in this manner, and in a great number of cases, without its action once extending to the vagina. When thus applied, however, it is always advisable to leave for a few hours a pledget of lint soaked in dilute acetic acid in contact with the eschar, as uncombined particles of caustic lying on it might otherwise slightly cauterize the vagina. This happened to me in one or two instances in which I had omitted the precaution I recommend. The pledget or dressing may be withdrawn in the course of a few hours, and a pint or two of tepid water, or of poppy-head decoction, injected.

In giving the above directions, I have supposed the patient to be lying on her back when examined, and the pelvis to be elevated so as to admit of easy and thorough inspection. In this case the cervix is, necessarily, the most depending part of the canal represented by the speculum and the vagina, and consequently any fluid which runs off from the cervix has a tendency to gravitate on to the vaginal cul de sac. Hence the necessity of taking the above precautions. The pelvis might, it is true, be elevated to such an extent as to render the vaginal canal dependent, especially if the patient were lying on her side; and this position would diminish the danger of the potassa running on the vaginal cul de sac; but as it renders the inspection of the cervix uteri and all surgical manipulations difficult, I advise the dorsal position to be enforced. When about to use so powerful an agent as potassa fusa, we cannot see too clearly and satisfactorily the state of the parts on which we have to operate. Otherwise, all is doubt and danger.

For many years, however, I have not used either the Vienna paste or the pure hydrate of potass. I now always substitute cylinders of potassa cum calce, which, with the assistance of Mr. Squire, of Oxford-street, I have succeeded in obtaining similar to those of nitrate of silver in ordinary use. M. Filhos, of Paris, appears to have been the first to ascertain that it was possible to fuse potassa and lime in variable proportions, and to run the preparation into solid lead tubes. Not finding M. Filhos' tubes of fused potassa cum calce by any means as energetic or as efficacious as the Vienna paste or the hydrate of potassa, I requested Mr. Squire to fuse these substances for me in the proportion of two parts of potassa to one of lime, and to run them into soft metal tubes. The fluid potassa cum calce invariably melting the tubes, we had iron moulds of various sizes made, and ran it into these with complete success.

I have thus succeeded in obtaining cylinders of potassa cum calce like those of nitrate of silver, which can be used with ease, and with perfect freedom from risk, owing to their not fusing as pure potassa does, although nearly as powerful in their effects as the latter substance. They are not free from a tendency to deliquesce, soon becoming spongy if left exposed to the atmosphere, but if applied to a dry or nearly dry surface, the action of the caustic does not extend beyond the part touched.

This action is nearly as prompt and as deep as that of uncombined potassa. Owing to their not deliquescing, the cylinders may be used

without all the precautions which are absolutely requisite when the Vienna paste or potassa fusa is employed. All that is necessary is to see the cervix well isolated in the speculum, to wipe off the sanies that oozes from the surface cauterized, and after the cauterization to apply a cotton pledget, moistened with vinegar and water, and tied to a piece of thread. This should remain as a dressing on the withdrawal of the speculum, which the patient can herself remove in the course of a few hours. These precautions are necessary, as, for several minutes after the application of the caustic, a straw-colored fluid exudes—especially if it has been carried into the cervical cavity—which may slightly cauterize the parts with which it comes in contact.

I use cylinders of three different sizes. The middle size is that of the nitrate-of-silver cylinder, the largest is twice as large, and the smallest considerably smaller. This latter size I principally employ to cauterize the cavity of the cervix. It may be fixed in the fluid caustic-holder; the two larger sizes in the nitrate-of-silver holder.

When potassa fusa, or its combinations with lime, are only used to modify the vitality of an ulcerated or inflamed surface, they need not be allowed to remain in contact with the diseased region more than a few seconds. If, on the contrary, the intention is to give rise to a slough, as when they are employed with a view to reduce hypertrophy, they must be kept in contact longer. The eschar produced by potassa fusa is of a grayish-black color. It does not fall off at any given time, but melts away, as it were, revealing a healthy granulating surface, from which it has gradually been thrown off. This gradual disintegration of the eschar is accomplished in from five to ten days, according to the depth to which the tissues have been destroyed. When the eschar is deep, if the patient is examined about the third day, the presence of the eliminatory inflammation is very clearly indicated at the margin of the eschar, which is separated from the adjoining tissues by a superficial sulcus or groove. The surrounding parts are then the seat of considerable inflammatory reaction, and the cervix and the upper part of the vagina will generally be found considerably congested and inflamed. The elimination of the eschar may be attended by slight hemorrhage about the fifth day. I have, however, never known it to be serious, and have found cold astringent vaginal injections quite sufficient to arrest the flow of blood.

In the course of from seven to fourteen days, the cervix and adjacent tissues return to the state in which they were before the application of the potassa, the artificial inflammation produced by the caustic gradually subsiding. If an ulceration previously existed, it is generally found larger on the final elimination of the eschar; the granulations are more florid, and more developed, and appear endowed with more vitality. If no ulceration existed, there is one left, presenting the above characters. For the first ten or twenty days that follow, there is little or no change in the state of the ulcerated surface, which continues to secrete healthy pus; but about the twenty-first day from the date of the cauterization, a decided progression towards cicatriza-

tion commences. This tendency to heal in the ulceration continues to be very marked from about the twenty-first to the fortieth day, when it generally ceases. Very frequently the ulceration heals before the fortieth day; but if it does not, the influence of the strong potassa cauterization being exhausted, it must either be repeated, or the treatment must be carried on with milder agents, if it is thought that they alone will suffice. Severe cauterization should be resorted to unless there be a clear fortnight before the menstrual epoch, which it otherwise tends to accelerate. The coincidence of the menstrual molimen with the reaction that follows the action of the caustic is to be avoided, lest it should extend to the body of the uterus, and give rise to acute metritis, or even to metro-peritonitis. In several instances that have come to my notice in which symptoms of active inflammation followed the use of potassa fusa in the hands of others, I have been able to trace it to this cause.

During the time that elapses from the falling of the eschar to that when the improvement to be expected from the severe cauterization has fully taken place, the ulceration must not be left to itself, otherwise it may become too luxuriant and irritable, and not heal. The reparative inflammation set up must be controlled by the periodical application of the nitrate of silver in substance or in solution. The vitality of the ulcerated surface is so much increased by severe cauterization, that I find the eschar of the nitrate of silver is often thrown off in three or four days. I consequently sometimes diminish the interval I usually allow to elapse between the "dressings" of the ulceration, or use a solution of the solid nitrate of silver, instead of the solid caustic.

Although it be thus advisable, in order to insure the *full* benefit of severe cauterization, that the ulceration should subsequently be carefully watched and treated, there is more probability of its healing without further interference on the part of the practitioner, than under any other form of treatment. I have repeatedly applied potassa, or potassa cum calce, to patients whom I have subsequently lost sight of for five or six weeks, owing to unavoidable circumstances, and on examination have found the ulceration nearly or quite well; no examination or local treatment, except vaginal injections, having been used in the interim. This is, no doubt, owing to the profound modification which severe cauterization impresses on the vitality of the diseased tissues, and to its substituting a healthy ulceration, with a natural tendency to heal, for a morbid one, with a tendency to indefinitely perpetuate its existence. It would be unwise, however, to depend on this tendency after deep cauterization, and to forego the subsequent periodical dressing of the sore, the success of the treatment being thereby very much compromised. I have in many cases tried to insure the continued improvement of patients who could not remain long with me, by resorting to severe cauterization, and then allowing them to suspend local treatment for a few weeks, as soon as they had recovered from its immediate effects, but have frequently



found that the diseased condition did not improve after a short time, for want of subsequent treatment.

The pain occasioned by the application of potassa fusa, is not, generally speaking, much more severe than that which follows the use of the ordinary caustics; when, at least, its application is limited to the exterior of the cervix. Indeed, the degree of pain occasioned by cauterization of the cervix does not seem in any way to be proportioned to the extent of the cauterization, but to depend more on variable individual susceptibility. With some, the formation of a deep eschar on the cervix only occasions smarting; whilst with others, the mere use of nitrate of silver occasions severe pain. That which follows the employment of the more severe escharotics is not unfrequently less than that which is occasioned by the milder ones; owing, probably, to the complete destruction of the tissues acted upon.

When the potassa-cum-calce cylinder is introduced into the cervical cavity, the pain may be very intense, sometimes giving rise to nausea, and even sickness; as we have also seen to be the case with the milder caustics. The more highly-developed vitality and nervous sensibility of this region—the cervical cavity—accounts for this difference, as also for the fact that a very slight amount of disease in this region often deeply affects the general health.

When applying potassa fusa or potassa cum calce to the cavity of the neck of the uterus, I never leave it more than a few seconds in contact with the diseased surface, as the object is not to create a deep slough, but merely to reach diseased follicles, and to profoundly modify the vitality of the mucous membrane. I generally use the smallest cylinder, which, from its size, moves freely in the enlarged cavity, only applying it where there is evident morbid dilatation; and never beyond half or three-quarters of an inch in depth, even when the disease appears to penetrate farther. Owing to the smallness of the cylinder, it may break unless it be fresh and great precaution be used; but even were this to occur, nothing would be easier than to seize the fragment with the speculum forceps, or to extract it with the uterine sound. For the first fortnight, the discharge of muco-pus and of transparent mucus from the os uteri is much increased. It then diminishes, the cervical cavity begins to close, if it has not done so already, and by the end of the fifth or sixth week, generally speaking all trace of internal inflammation has disappeared, and the diameter of the os is reduced to its natural size.

The tendency to contraction observed during the healing process, especially when the potassa cum calce is carried into the cavity of the cervix, is an additional and very powerful reason for watching over the patient at that time. Indeed, I have seen many cases since the publication of the second edition of this work, in which, for want of such care and attention, the os and cervical canal have become contracted to such an extent as nearly to obliterate them, and as to prove a serious obstacle to menstruation. I felt therefore obliged to lay down as a rule, that the potassa cum calce should never be used in

this region unless it be absolutely indispensable, and unless the practitioner have the opportunity either of following up the case, or at least of seeing his patient for a few weeks afterwards, and of counter-acting any tendency to contraction which he may then remark. This may be easily done by merely passing a moderate-sized bougie through the cervical canal each time the nitrate of silver is used, that is, every four, five, or six days. In the cases in which I have seen the os and cervical canal all but obliterated by the action of caustics, they must have been too freely applied, inasmuch as in my own practice such results have not occurred to my knowledge. In a few instances I have had, it is true, a greater degree of contraction than was desirable, but it has never been to the extent I have seen it in some of the cases treated by other practitioners under the idea of carrying out my views. The secretions of the uterine cavity and of the cervical canal have generally sufficed to keep the passage free, when I have not had an opportunity of regularly attending to the patient. It should be recollected that the principal reason for the employment of so potent an agent as caustic potash in the treatment of intractable inflammation of the cervical canal, is that part of the inflamed mucous membrane, and of the mucous follicles that stud it, are concealed between the rugæ of the arbor vitæ, which have to be partly destroyed before they can be reached by the caustic. When this is accomplished, all that is required has been effected, and any further destruction of the parietes of the cervical canal can only be productive of mischief, by giving rise not only to general contraction, but to adhesions which, if they all but obliterate the passage, must interfere both with menstruation and with impregnation. In a patient with whom I had used the potassa cum calce five years previous to her dying from cancer of the cæcum and ascending colon, I found slight adhesions throughout all that portion of the cervical canal that had been acted upon. The canal was quite free in its upper portion.

When the cervical canal has been only slightly narrowed by the action of caustics, for the use of the milder caustics may also be followed by contraction in a minor degree, its artificial dilatation is easily accomplished. The passage of a few bougies of graduated sizes is, generally speaking, all that is required. When, however, the os externum is nearly obliterated, and firm adhesions have taken place throughout nearly the entire cervical passage, the difficulty may be extreme. In a case which I once had to attend, I could not for some weeks find the orifice of the os; not, indeed, until a menstrual effort revealed it. The menses had been retarded and even arrested for some time with this lady, aged forty, and severe hysterical convulsions, bordering on epilepsy, and occurring principally at the menstrual epoch, appeared to have followed as a consequence. These attacks ceased on a free exit being procured for the menstrual discharge. With the assistance of bougies, and prepared sponge, I have nearly always succeeded in obtaining a tolerably free passage. In some few instances, however, I have had to make a small preliminary incision with a gum

lancet; and in one case, the worst I have ever met with, I had to make a deep incision with a narrow double-edged bistoury. The patient, a young sterile married lady of twenty-six, had been very unskilfully treated, and the cervical canal was quite obliterated to the depth of above half an inch. At each menstrual epoch uterine tormina set in, which brought the cervix down to the vulva. I had considerable difficulty in reaching the upper and open region of the cervical canal, and then in keeping the passage free. This I at last succeeded in thoroughly accomplishing by means of a bulb-ended metallic bougie left in situ for several weeks, with an occasional interval of a few days.

The use of the potassa cum calce in the cervical canal, exposing the patient to such accidents as these, it is evident that it should only be resorted to when other agents fail, and that too much care and caution cannot be taken by those who resort to it. It is infinitely better to apply it very lightly, and to repeat the application if necessary, than to run the risk of permanent injury by using it too energetically. In recommending the use of this agent I certainly never contemplated its being applied in such a manner as to give rise to results like those above detailed, and regret that I did not lay more stress on this point in the first edition of this work.

The other accidents which may follow the use of caustic potash in any form are, extension of the caustic to the vagina, and extension of the inflammatory reaction produced to the uterus and peritoneum. These accidents, like the former, may be avoided by common care and prudence. Potassa fusa itself ought, I think, to be discarded, now that we have in the potassa cum calce cylinders such an admirable and safe substitute. All the instances in which I have seen the vagina compromised have been cases in which pure potassa fusa had been used. It is so extremely deliquescent, that it is all but impossible to always avoid its running on to the adjoining parts. As regards the extension of the secondary inflammation to the body of the uterus, that need not be feared if due precautions are taken both before and after the caustic is applied. All acute or even subacute inflammatory action should be first subdued, and the proper period should be chosen for the operation. Six or seven days after menstruation is the best time, as it allows two or three weeks' quiescence from the menstrual molimen. Lastly, the eschar produced should never be too extensive, even when made on the outside of the cervix.

When inflammation of the cervical cavity has been treated and cured by the potassa cum calce, there is not so great a liability to relapse as is observed when the disease has been apparently cured by milder applications. This remark applies to the treatment of chronic inflammation of the cervix generally by potassa fusa. The vitality of the diseased tissues is more profoundly modified, and consequently not only does the ulceration heal or the chronic inflammatory action subside, but the parts underneath and around become healthy and free from disease. When ulceration is cured by other treatment, this is



not always the case—the cicatrized surface sometimes remaining red, irritable and inflamed.

Even when the application of the stronger caustic does not occasion much pain, it often gives rise to extreme exhaustion and mental depression, and sometimes to syncope, thereby showing the connection between the uterus and the general languor and debility which so frequently characterize these inflammatory diseases. I occasionally see patients so prostrated by its action, although scarcely in any pain, as to be unable to rise from the bed or sofa for several days.

One of the principal properties of potassa fusa, when energetically applied, is that of melting inflammatory induration and hypertrophy. This effect is also produced by the actual cautery, the action of which we have now to examine. I shall, however, enter more fully into the consideration of the action of these remedies as solvents when treating specially of hypertrophy of the cervix.

*The Actual Cautery.*—It is possible to obtain by the actual cautery the same results as those furnished by potassa and its combinations with lime. The effects produced by the actual cautery are in every respect identical with those produced by the hydrate of potassa. An eschar is created, the elimination of which is attended with subacute inflammation of the tissues on which it rests. Under the influence of this subacute inflammation the induration and hypertrophy subside, and the vitality of the ulcerated surface being deeply modified, cicatrization rapidly follows.

Celsus recommends ulcers of the prolapsed uterus to be cauterized with the actual cautery, and other modern surgeons have proposed the same means of treatment, as, for instance, Percy and Baron Larrey. It does not, however, appear that these suggestions were acted upon until adopted by M. Jobert de Lamballe, the talented Paris surgeon, who has long resorted, with great success, to this mode of treating chronic inflammatory induration of the neck of the uterus. Indeed, he adopts the actual cautery as a general means of treatment, using it in cases of intractable ulceration, as well as in severe inflammatory hypertrophy.

In order to protect the vagina from the heat which radiates from the cautery, especially if the one employed is large, an ivory conical speculum may be used, ivory being a bad conductor of caloric. This precaution, although always adopted by M. Jobert, is not, however, indispensable. One or two olive-shaped cauterics, heated to whiteness, may then be extinguished on the part of the cervix which has to be cauterized. An eschar, more or less deep, is thus formed, as by cauterization with potassa fusa. It is necessary that the cautery should be brought to a white heat, as otherwise it adheres to the tissues on being withdrawn. But little pain is experienced by the patient, either at the time, or subsequently, the eschar falling off from the sixth to the tenth day, according to the depth of the cauterization. When the actual cautery is used to remove inflammatory hypertrophy, two or more cauterizations may be necessary to restore the neck of the uterus to its natural size.

The actual cautery, as a means of treatment in uterine disease, has met with but little encouragement from the Paris surgeons, and is stated by many to be inefficient and unsafe. I can, however, confidently assert, from what I saw of M. Jobert's practice when I was his house-surgeon at the Hôpital Saint Louis, in 1840, and from the results which I have myself since obtained, that these objections are perfectly unfounded. I have never known any serious symptoms to follow its use, whereas I can testify to its efficacy in very many instances of severe disease. I must, however, admit, that in two or three of the cases in which I have used the actual cautery to cauterize the orifice of the cervical cavity, the result has not been altogether satisfactory. The local inflammation produced by the elimination of the eschar lasted too long, and the parts assumed a rather unhealthy character. This I do not recollect having observed after using *potassa fusa*.

M. Jobert thinks that cauterization with the actual cautery possesses peculiar advantages as compared with *potassa fusa*. I believe, however, that he is mistaken in this respect, and that the two methods are identical in their effects. My friend, M. Laurés, who was for three years M. Jobert's house-surgeon, and during that time saw most of his uterine cases, has written an interesting thesis on the use of the actual cautery, which may be considered faithfully to represent M. Jobert's opinions. M. Laurés states that it is difficult to appreciate rigorously the depth to which the Vienna paste will disorganize the tissues of the uterine neck; that instead of exciting in the neighboring parts a favorable reaction, it weakens the vital force and exercises a stupefying influence; that it is difficult to apply, and, in liquefying, runs on to the parietes of the vagina, thus giving rise to extensive loss of substance, which, on filling up, contracts the part.

To these propositions I can give the most decided negative, from lengthened experience. A practitioner who is accustomed to the use of the caustic, may measure to a nicety the extent of the eschar which he wishes to form by means of *potassa fusa*, and if great care and caution be shown at first, he will gradually and safely acquire the necessary knowledge, even if previously ignorant of its effects. So far, on the other hand, from the action of the caustic on the surrounding parts being a stupefying one, I have *always* seen reaction take place most freely, and with all the characters of healthy inflammation; whereas, as I have above remarked, I have, in some few instances, seen the actual cautery followed by unhealthy reaction. As to the caustic running on to the adjoining parts, such an accident is certainly possible in unskilful hands, and I have indeed known it to occur, but it need never take place with a prudent, cautious practitioner, who knows what he does, and carefully attends to the rules and precautions which I have laid down. I have used it myself, for very many years, and have never known the vagina even touched by the caustic. The same objection applies with equal force to the actual cautery—which I should be very sorry to see used for the cauteriza-

tion of the cervix by any but a skilful and prudent practitioner; it applies indeed also to all surgical operations. I am at a loss to discover how my former colleague can have adopted such unfounded notions respecting this mode of cauterization, and should not have reproduced these statements, were it not that they constitute the chief objections that have been urged in France against cauterization with potassa fusa in the shape of Vienna paste.

For some years, I frequently resorted to the actual cautery. In some cases in which I wished to modify the vitality of very intractable ulcerations persisting within the os uteri, I used freely olive-shaped cauteries, sufficiently small to pass within the morbidly dilated os, and with very gratifying results. Since I have succeeded, however, in rendering the application of potassa cum calce so very simple and safe, I have all but ceased to employ this mode of treatment, on account of the dread which it occasions to the patient. There is certainly something very alarming to the imagination in the application of the actual cautery to any part of the body; and the fear it occasions is increased by the noise and odor which the combustion occasions. In reality, the operation is a trivial one, although the patient cannot easily be made to look upon it in this light. I therefore prefer the potassa cum calce, which is quite as efficacious, and is unattended with this drawback. If the patient is not told, she is not able to tell the difference between an application of the nitrate of silver, which is a mere dressing, and that of potassa fusa, which is an operation.

Both the actual cautery, and potassa fusa, alone or combined with lime, have always proved free from any risk or danger in my hands; more so, indeed, than could possibly have been supposed, *à priori*, from the energy of their effects. The reactional inflammation which is thus intentionally set up for therapeutic purposes, seems all but invariably to limit its action to the neck of the uterus, not extending to the body of the organ. Indeed, if the patient keeps perfectly at rest, on a couch or sofa, during the six or eight days this inflammation lasts—a very desirable and even necessary precaution—she is often perfectly unconscious of any more severe application than usual having been made, or of the existence of the eliminatory inflammation. On moving, however, she generally feels that the womb is painful and sensitive. Although it is now many years (1837) since I first witnessed this mode of treatment, and although I have myself subsequently employed it in a very large number of cases, I have only once seen serious inflammation occurring as a sequela; and even in this instance I am far from certain that what occurred can fairly be attributed to the treatment adopted.

The patient, a young married lady, without family, twenty-four years of age, had been under my care, at intervals, for nearly two years, for inflammatory disease of the cervix, which appeared, from the antecedents of her case, to have been in existence even before she married, at twenty-one. The peculiarity of the case consisted in a



most obstinate tendency to relapse. When I was first consulted, there was extensive ulceration of the cervix and its cavity. This disease was perfectly subdued after a few months' treatment, and she left me apparently well. In the course of the eighteen months that followed, however, she had several relapses of cervical inflammation—these relapses always occurring after menstruation, which was attended with great pain, as has been the case all her life. Thinking they might be owing to extreme menstrual congestion, the result of an evidently constricted state of the cervical canal, I dilated it by means of sponge tents. Finding that this was of no avail, I thought that the cause of the relapses might be limited inflammation, existing in the mucous follicles within the os, which appeared never to have quite subsided; the uterine mucous membrane appeared healthy. I had generally found a few drops of pus exuding from the os, on examining shortly after menstruation; and when the relapses of general cervical inflammation took place, muco-pus invariably issued from the os in large quantities. With a view to modify effectually the vitality of the chronically inflamed mucous membrane, I touched it very lightly with a small cylinder of potassa cum calce, which merely gave rise to a very superficial eschar.

The usual reaction took place, without presenting any marked intensity, and ten or twelve days afterwards the menses appeared. This time, however, they were followed by cold shivering, and fever; and when I saw the patient a few days later, I found that an abscess had formed in the left lateral ligament, and had opened into the rectum. I had abstained from calling for a week or ten days, owing to the menses, and was not sent for, my patient being so much accustomed to pain as not to attach much importance to what she suffered. Had I seen her from the first, and treated her energetically, it is possible that suppuration might have been prevented. She slowly recovered from the effects of this attack of inflammation. Pus long passed in the motions, and tumefaction was long perceptible on internal examination with the finger on the left side of the uterus, becoming, however, gradually less and less marked. It was, indeed, above eighteen months before all traces of the abscess of the lateral ligaments disappeared, and before she regained her health, which she did to a great extent. The attack of inflammation in the appendages of the uterus was apparently attended with a beneficial result; there was no relapse of uterine or cervical inflammation for some time. Two or three years later, however, she had another attack of abscess in the lateral ligaments, on the same side, which reduced her to death's door. She again recovered, but I lost sight of her before she was quite restored to health. There was probably an unperceived connecting link of uterine disease, between the first and second attack of abscess.

Although I have given the above case as an illustration of inflammation and abscess of the lateral ligaments occasioned by the extension of the reactional inflammation following severe cauterization, it is by no means certain that its occurrence was not merely a coincid-

ence. Generally speaking, the inflammation caused by a much more severe cauterization than the one in question subsides by the eighth or tenth day; and, in this instance, it was not until the twelfth that the menses appeared, and only subsequently that the fever and shivering manifested themselves. Might not this attack have been of a similar nature to those which had so repeatedly occurred before at the menstrual period, only this time located in the lateral ligaments, instead of in the neck or body of the uterus?

When I reflect that I have seen the cervix deeply cauterized, or have myself cauterized it in hundreds of patients, in the treatment of inflammatory disease, it is a subject of surprise to me, that this should be the only serious accident that I can call to mind. This fact alone proves the correctness of the assertion I made in the first edition of this work—namely, that deep cauterization of the cervix uteri, even when carried to a considerable extent, does not entail more risk to the patient than any of the minor operations of surgery, provided the proper period be chosen, and the necessary precautions taken.

It cannot, however, be denied, that cauterization of the cervix, as above described, and especially deep cauterization, is *an operation*, and, like all operations, surrounded with danger. It must not, therefore, be either injudiciously resorted to, or carelessly carried out. Although my own practice has hitherto been free, or all but free, from serious accidents, the same immunity does not appear to have attended that of others. Various cases, in which serious accidents have followed the use of caustic potash, have been narrated as arguments against its use, since the first editions of this work were published. M. Gendrin, my late friend M. Aran, and other observers have seen acute metritis and abscess in the lateral ligaments, the evident and immediate result of deep cauterization. They have, however, seen the same results follow the use of the nitrate of silver, of injections, and of the uterine sound. I may also mention that two of the most severe instances of acute metritis that I have myself witnessed in the unimpregnated womb occurred after the use of weak astringent vaginal injections.

It is clear, from what precedes, that no surgical interference with the uterus, however simple, is absolutely free from risk. No such means of treatment, therefore, should be resorted to unless rendered necessary by the state of the patient; but, at the same time, we should not shrink—owing to the existence of a slight risk—from having recourse to the remedial agencies which experience teaches us to be efficacious, if they become necessary for the cure of the patient. We must bear in mind that, in order to restore health, a person suffering from any disease which can only be removed by surgical treatment, there is a certain amount of risk and danger to be encountered. In the surgical treatment of uterine inflammation, however, the risk is so slight, that it need not deter the most scrupulous practitioner.

*Hypertrophy and Induration.*—In giving the history of the local treatment of inflammation and ulceration of the neck of the uterus,

and of its cavity, I have also, to a great extent, given that of the hypertrophy and induration which so usually accompany these morbid conditions.

Hypertrophy of the uterine neck is generally the result of the combination of two pathological conditions—inflammatory congestion and nutritive hypertrophy. The presence of inflammation gives rise to an unusual development of the vessels and capillaries of the entire cervix, thereby more or less increasing its size and density. On the other hand, the continual existence of this morbid state in the course of time gives rise to cellular hypertrophy and induration. The plastic lymph exuded becomes organized, new vessels are formed, and the cervix uteri may thus become enormously increased in size. This nutritive hypertrophy is often connected with deep-seated chronic inflammation.

The antiphlogistic measures which have been enumerated, injections, hip-baths, local depletion, and superficial cauterization, always very considerably diminish hypertrophy of the cervix, by subduing the congestive and inflammatory element; and if it exist alone, they generally remove it entirely. When both deep-seated and superficial inflammation are thoroughly subdued, even if a slight amount of nutritive hypertrophy remains, it is seldom at first necessary to carry treatment farther, as Nature alone, in the absence of actual disease, will generally melt and diminish by degrees the hypertrophy. I am continually witnessing cases of this description—cases in which the cervix and body of the uterus regain their natural size, without any special treatment, in patients whom I have left to the restorative powers of Nature, after the entire removal of actual disease. The nutritive hypertrophy which they still presented on the suspension of local treatment, gradually melts and disappears.

In some instances, however, the therapeutic means enumerated only partly subdue the deep-seated chronic inflammation which is connected with the hypertrophy. Or, overcoming diseased action, they leave behind a very considerable amount of hypertrophy, sufficient to drag down the uterus, and to occasion serious inconvenience. In the first case, even if the ulceration is quite cured, there is no safety for the patient. The healed surface remains red and congested, and is nearly certain again to become ulcerated, under the influence of the slightest cause. Moreover the local and general symptoms of uterine inflammation persist, although in a mitigated shape. In the latter case, if the hypertrophy is very considerable, it is too serious a condition to be allowed to remain, more especially as there is scarcely any probability of Nature unassisted removing such extensive enlargement.

The principal therapeutic means recommended by the most recent writers for the treatment of inflammatory hypertrophy of the cervix uteri, are those which we shall hereafter see extolled in the treatment of *presumed* cancer: local depletion, the local application of iodine and mercurials, and their internal administration.

I have not myself derived sufficient benefit from the use of iodine



and mercurials, either external or internal, in the treatment of hypertrophy—whether connected with deep-seated intractable chronic inflammation, or existing merely as nutritive hypertrophy, the remains of former disease—to induce me to depend upon them. Indeed, I am inclined to believe that the benefit that other practitioners think they obtain from their use in cases of inflammatory hypertrophy, is more to be attributed to the simultaneous use of local antiphlogistic treatment, than to the unassisted action of the mercury or iodine.

The internal administration of iodine or mercury, moreover, can scarcely be carried to such an extent as to react on the nutrition of a cellular hypertrophy, like that of the cervix uteri, without some peril to the general health. Nothing, therefore, but necessity ought, in my opinion, to warrant our having recourse to the long-continued use of such powerful medicinal agents in these cases. The more so as the females who present this morbid condition are generally in a weak, debilitated, cachectic condition, from the effects of long-continued suffering. With them the hypertrophy is not the result so much of a general disease, that can be neutralized by medicinal agency, as the consequence of chronic local irritation and inflammation; similar in many respects to the hypertrophy of the tonsils, so often observed as the sequela of repeated attacks of amygdalitis, or even of common sore throat. I should myself as soon think of relying on mercury and iodine to remove this chronic enlargement of the tonsils, as to remove hypertrophy confined to the neck of the uterus. Surgical treatment is as much indicated in one form of enlargement as is the other, unless, indeed, there be some general indication in the economy which renders the administration of these medicinal agents desirable, and likely to be exceptionally efficacious.

Were there, indeed, no possibility of removing hypertrophy of the neck of the uterus by local treatment, it would be perfectly rational to try these, or any other medicinal agents, however powerful; especially in the cases in which the hypertrophy is connected with deep-seated chronic inflammation, which keeps up the whole train of local and general symptoms observed in uterine inflammation. Such, however, is not the case. If hypertrophy, when confined to the cervix, resists the action of the ordinary antiphlogistic means of treatment, it scarcely ever withstands the melting influence of deep cauterization with potassa or the actual cautery. This assertion is so generally true, that I do not even find it necessary, in the majority of cases, to resort to the internal administration of iodine or mercurials *to assist* the action of cauterization, and reserve them to meet general symptoms; or for those cases in which the hypertrophy extends to the body of the uterus, and resists local treatment. This treatment of cervical hypertrophy is so efficacious, that it must eventually be generally adopted in extreme cases.

Of the two, potassa and the actual cautery, I infinitely prefer the former, for the purpose of making a deep eschar on the hypertrophied cervix. If the actual cautery is resorted to, a large-sized olive must

be used, and it must generally be heated and re-applied twice, or fresh ones used. As the cautery acts by combustion, the noise and fumes are considerable, and generally alarm the most courageous patients, although, as I have stated, the pain is not very great. The retraction of the surrounding tissues, which accompanies a burn, is felt likewise rather painfully. When, on the contrary, the potassa cum calce cylinders are used, the patient is in complete ignorance respecting the extent to which the cauterization is carried; neither her own sensations nor the concomitants of the operation being different from what she is accustomed to feel or witness in the habitual treatment of the disease under which she is suffering.

In either case the subsequent result, as I have already stated, is the same. Nature sets up eliminatory inflammation in order to throw off the eschar. This inflammation extends, more or less, to the hypertrophied tissues, according to the size of the eschar, and to the nature and extent of the hypertrophy; and as it gradually subsides, these tissues melt and are absorbed. Under the influence of this very simple process, the effects of which persist during several weeks from the date of the cauterization, nearly any amount of hypertrophy of the uterine neck may be gradually and safely removed, and that without much suffering to the patient.

As I have already explained at length the manner in which the cauterization should be made, the precautions to be taken, and the immediate and subsequent results, I have but little further to add on the subject. I must, however, *most emphatically* guard practitioners against an error into which there would appear to be some danger of their falling, from misinterpretation of my views. I wish it to be most distinctly understood that I do *not propose to destroy* the hypertrophied cervix by cauterization, but merely to set up an artificial eliminatory inflammation, by means of an eschar or issue, of *limited extent*, established in the centre of the hypertrophied region. I do not calculate, in the remotest degree, on the destruction of tissue to which the caustic or cautery gives rise, for diminishing the size of the hypertrophied cervix, but solely and entirely on *the inflammation subsequently set up*. Any attempt actually to destroy the hypertrophy, by direct cauterization, appears to me both dangerous and unnecessary. Dangerous, because I should be afraid that the intensity of the reactional inflammation would be so great as often to extend to the uterus or to the lateral ligaments, and because I consider it next to impossible always to limit the action of the caustic, when applied with such profusion. Unnecessary, because a mere eschar, of the size of a sixpence, will answer the purpose of reducing the hypertrophy equally well. It may perhaps be necessary to apply it several times; but of what consequence is prolonging for a few weeks the treatment of a disease which must have existed for years, to require treating at all by such agents, compared with the danger of perforating the vagina, and causing peritonitis, or of giving rise to intense metritis?

The sores occasioned by the deep application of potassa heal very

rapidly, even when left to themselves. It is better, however, to touch them at intervals with the nitrate of silver, to prevent the granulations becoming too luxuriant, and to favor the cicatrization which usually takes place in from three to four weeks. This fact shows how very different the morbid ulcerations of the uterine neck (described throughout this work) are from ulcerations produced artificially, the latter having a direct tendency to heal, whereas the former have an equal tendency to perpetuate their existence. It also demonstrates the rationale of the treatment of morbid ulceration by cauterization, which substitutes healthy for unhealthy action.

Indeed, I must again remark that the theory of the treatment of inflammatory ulceration of the uterine neck, as expounded in the preceding pages, might, with great benefit, be more thoroughly applied by surgeons to intractable ulcerations in other parts of the body. I have repeatedly succeeded, experimentally, in curing, by the same means, chronic ulcers of the leg, which had resisted for years all previous attempts at treatment.

In speaking of the surgical treatment of hypertrophy of the cervix uteri, I have not hitherto alluded to amputation of the enlarged neck, as I do not consider it a justifiable operation in the ordinary forms of hypertrophy. In these cases amputation of the hypertrophied cervix is difficult to perform, and is not unattended with danger from hemorrhage, as is shown by M. Lisfranc's cases, many of which, no doubt, were mere instances of inflammatory enlargement. Moreover, it is next to impossible to remove the entire extent of the hypertrophy, when it is connected with the uterus by a large base, as is usually the case; and what remains, generally speaking, assumes as great a development as before. I have seen several cases, in which amputation had been resorted to, with a view to the radical cure of hypertrophy. On close examination I have always found that a portion of the hypertrophied cervix only had been removed, and that the condition of the patient was but little improved by the operation.

There is, however, a form of hypertrophy of the uterine cervix in which amputation is not only allowable, but is sometimes the only really efficacious treatment that can be adopted. I allude to the hypertrophic elongation of the cervix, whether congenital, or the result of pathological change which I have elsewhere described (pages 24 and 87). In the *Mémoire* I have repeatedly quoted, M. Huguier has shown that when the cervix is thus preternaturally elongated, to the extent of two or three inches, and when the hypertrophy does not give way to rational treatment, amputation may be safely performed. He gives the details of eight cases of amputation, five his own, three occurring in the practice of other Parisian surgeons. In all, the removal of the elongated cervix was unattended with any serious consequences, and proved quite successful. I am not quite certain that in all these cases the operation was absolutely unavoidable, for I have constantly in my own practice removed hypertrophied conditions similar to what existed in some of those described, by the



means enumerated above. In all, however, there was extreme elongation, and the absence of an enlarged basis extending to the tissues of the cervix above the vaginal insertion. These conditions rendered the operation feasible, and likely to be permanently beneficial.

In my opinion amputation should be restricted to the cases in which congenital or hypertrophic elongation of the cervix resists all other means of treatment, and is a cause of permanent and irremediable distress, or of matrimonial incapacity, or of probable sterility. Thus limited, it will rarely have to be performed. I do not recollect having met with more than three or four cases of hypertrophic elongation in which amputation could have been rationally performed on anatomical grounds, and even in these exceptional cases when I saw the patients the necessity for an operation did not exist on the above grounds. Under other social circumstances, or at a later period of life, however, I believe that in these very instances it might have been advisable, or have become advisable.

Amputation of the cervix is also an operation which is indicated when cancerous or canceroid pedunculated tumors, growing from the cervix, are recognized in a sufficiently early period of their existence to render their entire removal possible, along with that portion of the cervix from which they proceed. In my hands this operation has always been unsuccessful, the disease having constantly returned. Other operators, however, appear to have been more successful. One chief cause of unsuccess is no doubt the difficulty of entirely extirpating the disease, which generally extends beyond the reach of the knife, into the *sub* vaginal portion of the cervix.

The mode of operating adopted by M. Huguier is as follows: The pelvis is brought to the edge of the bed, the patient lying on her back in a good light, and the cervix is brought clearly into view by means of a large but short bivalve or conical speculum. The cervix having then been drawn upwards by means of a double tenaculum inserted in its apex, a semi-circular incision is made inferiorly with a curved knife, about two-thirds of an inch from the vaginal insertion. When the lower half of the cervix has been divided, the organ is depressed by means of the tenaculum, and the upper half is cut through in a similar manner. The division of the cervix is always attended with some difficulty, owing to its firm, gristly texture. In one instance the separation was completed by means of a strong pair of curved scissors. The hemorrhage was never serious, and was always arrested by the dressing, cotton or lint covered with an astringent powder. The vagina was partially plugged with cotton or lint firmly packed through the speculum. In one or two cases hemorrhage returned after a few hours, but was easily arrested in the same way. The wound healed in about three weeks. M. Huguier also mentions five other cases in which the neck of the uterus was amputated for hypertrophic elongation, without accident, and was a very satisfactory result. One of these operations was performed by Dupuytren.

It has been objected to deep cauterization of the cervix, that it

occasions cicatrices, which must interfere with the dilatation of the uterine neck in subsequent confinements. This, however, is an objection which could only be raised by those who have never seen deep cauterization resorted to, and who have not reflected on the structure of the cervix uteri, or on the results furnished by their own obstetric experience. The fact is, that a hard, fibrous cicatrix *is never observed on the cervix*, under any circumstances, and that because there is no tissue therein, the cicatrization of which could furnish one. The hard cicatrices, which are seen on the skin after the healing of wounds, burns, or ulcers involving the entire thickness of the external skin, are owing to the existence of a thick fibrous framework, or skeleton, in which the vessels and nerves of the skin ramify. This fibrous tissue—nearly all that remains of the skin of animals in leather—is but very partially repaired by nature after any loss of substance. There is, it is true, an abundant exudation of plastic lymph, which subsequently becomes organized; but the loss is principally made good by a puckering and drawing together of the surrounding cutaneous fibrous tissue; and it is the definite point of union of this contraction that constitutes the hard cicatrix.

In the neck of the uterus nothing of the kind can occur. In mucous membranes the fibrous network exists, but in so rudimentary a condition as scarcely to require taking into account. Mucous membranes are nearly entirely composed of vessels and nerves; and the former when destroyed are very easily reproduced. There is, consequently, little or no puckering in the healing of even a deep ulceration—and no hard cicatrix being formed, all evidence of cicatrization soon disappears; as we may daily observe on the lips, cheeks, and other mucous membranes accessible to the eye. Even when an ulceration on the mucous membrane has recently healed, the cicatrix is scarcely perceptible to the touch; and the eye itself soon ceases to detect its existence. In the cervix uteri we see how nature repairs divisions and losses of substance, by observing what occurs after the lacerations of the substance of the cervix which are so common in parturition, and which, when no subsequent inflammation sets up, merely leave a soft notch as the trace of their existence.

It must also be borne in mind, that in hypertrophy and induration of the cervix uteri, it is not so much the muscular structure of the organ—which, in the normal state, we have seen to be scanty—as the cellular structure, that is the seat of chronic enlargement. An eschar, therefore, even when apparently of considerable size and depth, in reality interferes but little, generally speaking, with the proper tissue of the organ.

In confirmation of these facts, I may also add the practical results of experience, as I have very frequently confined females whom I had previously treated by deep cauterization, without any difficulty or accident. Indeed, the removal of inflammatory hypertrophy of the cervix by this means, so far from proving an impediment to delivery, absolutely assists it, by doing away with the indurated state of the

cervix. As I have elsewhere stated, it appears evident to me that the greater part of the cases of rigidity of the cervix in labor that are met with in practice are the result of inflammatory hypertrophy, and that rigidity during labor would be much more common than it is, were not the indurated and hypertrophied cervix gradually to soften as pregnancy progresses. There is, indeed, a great similarity between the physiological softening and melting of the indurated cervix that occurs during pregnancy, and the softening that takes place under the influence of the reactional inflammation which follows deep cauterization.

In concluding these remarks on deep cauterization in the treatment of chronic inflammatory hypertrophy of the cervix uteri, I wish again to lay stress on the fact, that I only recommend it, and resort to it, when there is active disease present, when the cervix is the seat of chronic inflammatory action, intractable to all other agents, general and local, and when the hypertrophy is caused and kept up by such disease. In those cases of hypertrophy in which the cervix is merely passively enlarged, in which inflammatory action either does not exist, or has entirely given way to treatment or time, it ought not to be resorted to. The enlargement may then be safely left to nature and to general treatment. The absorbent powers of the uterus are perhaps greater than those of any other organ in the economy, and are generally sufficient, in the course of time, to reduce the enlarged cervix, when all actual disease has been removed.

It is worthy of remark, that the potassa-cum-calce cylinders constitute a very valuable and manageable caustic, whenever such an agent is required, for the destruction of chancres, or the treatment of indolent sores. I have found it of great use in the treatment of hemorrhoids, and, in some cases, preferable to nitric acid, which has been of late so much recommended.

In the above account of hypertrophy, I have merely considered it as existing in an isolated state and not extending to the body of the womb. Hypertrophy is not unfrequently met with in both regions simultaneously, but we shall discuss its treatment in the body of the organ when speaking specially of the treatment of chronic metritis.

*Displacements of the Neck of the Uterus.*—In the chapter specially devoted to displacements of the uterus, I have discussed at length the therapeutic questions to which displacements of the uterine neck give rise. I might, therefore, refer the reader to this section of this work, but I think it desirable to retain the following pages as they appeared in the earlier editions. They constitute a brief synopsis of my opinions respecting the treatment of displacements of the uterus, the result of inflammation of that organ, and of its neck, divested of all argumentative discussion.

The neck of the uterus, when inflamed and large, is generally displaced, as we have seen; being either prolapsed, retroverted, or anteverted.

Prolapsus of the cervix, as stated in former chapters, is generally



the result of its inflammation, elongation, and enlargement; and not, as usually supposed, of laxity of the lateral ligaments. As a natural result, therefore, all attempts to remedy the prolapsus in such cases, and to keep the uterus in its natural position by pessaries and other mechanical contrivances, are not only irrational but injurious, as long as the inflammatory cause persists. Pessaries, it is true, whilst applied, keep up the womb; but in so doing they aggravate the disease which occasions the prolapsus, their presence greatly irritating the inflamed tissues. The continued dilatation of the vagina, also, with which the retention of a pessary is attended, by destroying what little of its natural contractility inflammation has left, deprives the neck of the uterus of a powerful and important natural support. Such being the case, I have no hesitation in asserting, that in most of the cases in which pessaries are now employed, the patient is absolutely injured instead of benefited by them.

The rational treatment of this form of prolapsus is, after ascertaining the existence of the inflammatory disease which occasions it, to treat that disease by the means enumerated.

Prolapsus, real or apparent, exists, to a greater or less extent, in the great majority of the cases of inflammation of the cervix met with in practice. The uterus is so delicately poised, that the slightest increase in its weight from inflammation modifies its position, and elongation often follows. As the cervix returns to a natural size, and as the vagina regains its contractility, under the influence of appropriate treatment, the prolapsed cervix gradually rises in the pelvis, and eventually, when all disease has been subdued, usually regains its natural position.

This gradual elevation of the cervix as inflammation subsides, is also partly real and partly apparent only, the result of diminution in size and length. Sometimes, it only partially takes place, even when the disease of the cervix has been removed. When this is the case, the vagina is either naturally very lax, or it has been rendered so by frequent parturition, or the cervix remains elongated.

Even when the uterus does remain slightly prolapsed, after the removal of all inflammatory disease, I seldom find the patient complain of dragging or pain, unless after fatigue or over-exertion. Care, with rest, and the use of astringent or of cold water injections, are then the only remedies required. In such cases I never introduce pessaries, the presence of which is a source of distress calculated to irritate the internal tissues.

Almost the only cases in which the use of pessaries is indicated, are the very exceptional ones in which procidentia—not the result of the hypertrophic elongation of the supra-vaginal cervix recently described by M. Huguier—has taken place, and does not give way to the removal of inflammatory disease, and to the use of astringent injections, employed to restore the tone and contractility of the vagina. Even in these cases pessaries may frequently be dispensed with; the womb often recovering its position in patients in whom it has appeared at

the vulva, or has protruded externally, by merely following the above treatment.

In such cases of complete procidentia, when some artificial means of support is imperatively demanded, I generally find that a bandage, with a vulvo-perineal pad, is the most easily borne by the patient. As, however, these bandages only prevent the uterus protruding, and do not obviate its falling in the vagina, vaginal pessaries ought to be preferred, although inconvenient and painful, if they exercised, in the course of time, a curative influence on the prolapsus, as commonly asserted by allowing the ligaments to regain their tone. But I have not, in my own practice, or in that of others, found this to be the case, even in these extreme instances. Pessaries appear to me, in most cases, a mere artificial means of sustentation, like a crutch to a lame man, exercising no beneficial influence on the prolapsus, and allowing it to return to the full extent as soon as removed. On the other hand, I have seen, and continually see, a great deal of harm result from their blind and indiscriminate use. Nor can it be otherwise, when we consider that pessaries are commonly employed to remedy what is generally a symptom only of inflammation of the cervix. Thus it is that such cases occur as the one I have narrated at page 133, in which a wooden pessary was forced up the vagina of a young, unmarried female, suffering from ulcerative inflammation of the cervix uteri, and that by an experienced uterine practitioner, in the face of the most conclusive evidence as to the existence of the disease. In hypertrophic elongation they only increase the distress.

Innumerable forms of pessaries have been invented and lauded: all, however, on the same principle, that of supporting mechanically the cervix from the vagina. Sponges alone, or in bags, round or ovoid rings of boxwood, or of air-filled vulcanized Indian-rubber, springs, cup-shaped supporters, retained *in situ* by external bandages, &c. If a pessary is resorted to it happens that two or three different kinds have to be tried before the right one is found. A general rule, however, with all is, that they should be frequently removed and cleaned, that cold water, or astringent injections, should be used, to diminish the irritating effect which they have such a tendency to produce, and that the cervix should occasionally be examined with the eye to see that no inflammation be occasioned.

Abdominal bandages and supporters have been much recommended and used by most practitioners in the treatment of prolapsus of the uterus. Their advantage is limited to taking off the pressure of the intestines from the womb, by the support afforded to the lower part of the abdomen. The uterus, in the non-pregnant state, being concealed within the pelvis, an abdominal bandage clearly cannot give it any direct support. It may really afford, however, considerable relief to women in whom the uterus is enlarged, sensitive, and prolapsed; but can only be considered a palliative remedy, principally valuable to females, in whom the real nature of the inflammatory disease under which they are suffering has not been recognized, and who, being left

to take their chance, are glad to adopt any means that can give the slightest relief. As soon as all inflammatory enlargement of the uterus has been subdued, and it has regained its normal position, it loses its morbid sensitiveness, and the pressure of the abdominal organs is borne without being perceived. I therefore seldom recommend bandages to my patients, and generally find that those who had previously worn them, leave them off spontaneously long before the uterine disease is quite cured, no longer deriving any relief from their use. There are cases, however, in which the abdomen is large or loose, and in which a bandage gives great relief, appearing to contribute indirectly to keep the uterus in its position, both before and after treatment, through the support given to the bowels.

Retroversion of the neck of the uterus, with or without anteversion of the body, is a very common displacement in married females, as we have seen, and is by no means confined to persons suffering from inflammatory disease of the cervix. Attempts have been made to treat this displacement instrumentally, although no such means can possibly remedy its existence. It is a mere delusion to endeavor to restore the cervix and the uterus to their proper position, when thus displaced, by introducing the uterine sound into the cervical cavity, and bringing the cervix forward, even if the operation be repeated daily for several weeks. Such treatment only inflicts pain on the patient who is made to submit to it, without being of the slightest benefit to her. It does not remove, in any respect, the cause of the displacement, and the consequence is, that as soon as the instrument is withdrawn, the cervix falls back into its original position.

Retroversion of the cervix, it will be recollected, is partly the result of gravity, acting on an enlarged and indurated cervix, and partly of long-continued sexual intercourse, taking place under such circumstances; and the only chance of remedying it is to restore the enlarged and indurated organ to a natural size and consistency by judicious antiphlogistic treatment. When this has been accomplished, the uterus diminishes in size and length, and rises in the pelvic cavity, and the cervix, ceasing to press upon the rectum, reassumes, to a certain extent, its normal position; I say, to a certain extent, for it very seldom happens that the cervix thoroughly regains a normal direction, when it has once been much retroverted. This circumstance, however, is not of the least importance, as a slight deviation of the cervix posteriorly, and of the uterus anteriorly, gives rise to no morbid symptoms, in the absence of inflammatory disease, and requires no treatment, a fortunate circumstance, as it is the usual position of the organ in many married women, perfectly free from any kind of uterine disease.

The above remarks apply, in every respect, to anteversion of the uterus, which is nearly always the result of extreme retroversion of the cervix, when not occasioned by an exaggeration of the natural anterior curve of the uterus. (See p. 25.)



Anteversion of the cervix is scarcely ever observed, except in connection with retroversion or retroflexion of the body of the uterus. We shall examine its treatment when describing that of chronic metritis.

*Pain.*—The various local pains that have been elsewhere described, constitute one of the prominent symptoms of inflammatory disease of the cervix, and vary considerably during the course of treatment. Generally speaking, they do not require any particular medication; they are, however, subject to exacerbations after cauterization, the application of leeches, over-exertion, and the approach or presence of the menses, and may imperatively require relief. The most prompt and efficacious remedy for uterine pain, and for pain in the uterine regions—the lower part of the back, and the vicinity of the ovaria—is the injection of laudanum, or of any preparation of opium, into the rectum, in a small quantity of warm water, to be retained. The effect is much more decided than if the opiate were taken by the mouth. From fifteen to thirty minims of laudanum may be used at a time, and repeated in the course of an hour, if the desired effect is not obtained. A preparation of Mr. Squire's, to which he has given the name of solution of bimeconate of morphia, has appeared to me to occasion less sickness and headache than any preparation of opium that I have ever used, and I generally give it the preference on this account. The dose is the same as that of laudanum.

To the opiate injection may be added, sedative vaginal injections, the warm hip-bath, rest in bed, large poultices to the abdomen, leeches at the menstrual epoch, sulphuric ether administered internally, chloroform, and Indian hemp as a tincture or an extract. The spongopiline web, a mixture of sponge and wool, with a waterproof Indian rubber back, is a valuable substitute for the ordinary linseed or bread poultice. It can be used like a sponge, is light, efficient, and ever ready.

Chloroform is a very valuable addition to our means of allaying severe uterine pain, in whatever shape it manifests itself, whether as an exacerbation of the ordinary aching pains, as an occasional attack of uterine spasm, or as a periodical neuralgic affection. In all these forms of pain I have often given it with great benefit. It may be administered by inhalation, or internally as a medicine, or by rectal injection.

The inhalation of chloroform, carried so far as to produce insensibility, but not muscular paralysis, has often, in my hands, allayed the most violent pain, and subsequently procured the patient several hours' refreshing sleep. The same effect has been produced in many of my patients, by giving internally from thirty to forty minims beaten up with the yolk of an egg, or in a little thick gruel. I have obtained a like sedative effect from the use of the same quantity injected into the bowels. As chloroform does not mix with water, it is necessary to beat it up with mucilage, the yolk of an egg, or thick gruel, in order that it should remain in suspension. Very frequently, however, the

rectum cannot retain it, owing, apparently, to its irritating effect on the mucous membrane.

Generally speaking, all uterine pains vanish when the disease of the cervix is cured. This is not, however, invariably the case. The pain in the back, more especially, may remain long after all trace of disease has disappeared from the uterus, varying in intensity without any tangible reason. The treatment which I have found the most beneficial in this neuralgic form of backache is, the repeated application of large blisters. Blisters generally relieve it, even when uterine disease is still in existence; but I seldom resort to them during treatment, as the relief is only temporary, and a blister in this region is rather a painful and annoying remedy. When the uterine disease is quite subdued, on the contrary, one, two, or three blisters, applied successively, will often permanently remove the pain. If not at first successful, their application will generally be found to be so a few months later. Opiate and belladonna plasters, cupping and leeching, are frequently useful, although by no means so efficacious as the blisters.

When the uterine or vesical pain is very constant, and only temporary relief is obtained by the above means, I have repeatedly derived great benefit from the formation of an issue in the cellular tissue, just above the pubis, near the symphysis pubis. This issue should be kept up for several months. It also exercises a beneficial influence on the chronic uterine inflammation itself.

The pains in the left and right ovarian regions, which so generally accompany inflammation, and especially ulceration of the uterine neck, do not require any particular treatment. In the very great majority of cases in which they are met with, as we have seen, they are merely sympathetic pains of the nerves distributed to the ovary, and do not necessarily indicate the existence of ovaritis, either acute or chronic. Their almost invariable presence in the ovarian regions, however, when the cervix uteri is inflamed or ulcerated, is a remarkable circumstance, which leads to numerous errors. In practice, I continually meet with patients who are supposed to be suffering from chronic ovaritis, because they present these pains along with tenderness in the ovarian region, and with whom the inflammatory disease of the cervix is, in reality, the only decidedly morbid condition, the ovaries being free from all inflammatory action, and merely sympathetically irritable.

*Dilatation of the Cervical Cavity.*—Menstruation appears occasionally to remain painful, after the complete cure of inflammatory action in the cervix, from contraction either of the region of the cervical canal which has not been inflamed, or of that in which inflammation existed and has been removed. In the former case, the contraction is probably the result of the morbid thickening and enlargement of the cervix, diminishing the calibre of that part of the cervical canal that does not participate in the inflammation; for it will be remembered that inflammation of the cervical canal itself has invariably a contrary

or dilating effect. In the latter case, the contraction is probably owing to the narrowing of the previously inflamed and dilated region, and is generally, but not always, the result of too active cauterization.

Even when narrowing of the cavity of the cervix does exist under the influence of either of these causes, as a sequela of inflammation, it is often only temporary, and is gradually removed by nature without the necessity of any particular treatment. In the course of a few months, in the absence of inflammation, inflammatory induration of the neck of the uterus is generally absorbed, and all pressure is thus taken off the upper cervical region. The lower cervical region also generally relaxes in time when the contraction is slight. If it is considerable and the result of over cauterization, it may require artificial dilatation.

No remedial treatment for narrowing of the cervical canal is therefore required, under ordinary circumstances, within the few first months of the cure of inflammatory disease. Should, however, menstruation, after a reasonable lapse of time, continue to be anomalously painful, all inflammatory action, both inside and outside the cervix, having been subdued, artificial dilatation of the cervical canal may be reasonably recommended. In deciding on the adoption of dilatation, the state of menstruation is with me the principal criterion. The condition of the cervical canal, as appreciated by the uterine sound, I do not look upon as a guide that can be entirely depended upon. I have seen repeatedly instances in which the cervical canal is so narrowed, especially after treatment, as not to admit the uterine sound at all, and yet menstruation is easy, free from pain, and sufficiently abundant. In such cases, I should never think of resorting to dilatation, unless it were with a view to remove a possible cause of sterility.

I do not, however, believe that mere narrowing of the cervical canal, unless carried to an extreme extent, is a very frequent cause of sterility. The removal of this structural condition has proved of no avail in the majority of the cases in which I have resorted to it; and in those in which it has been followed by success, I am not certain whether the favorable result ought not to be attributed in most cases to the previous cure of the inflammation which accompanied it. The following case will illustrate the difficulty of forming an opinion on the subject.

In the spring of 1848 I was consulted by a young lady, aged twenty-five, married nearly two years. Of delicate constitution, she had for years suffered from dyspepsia and from dysmenorrhœa, but had been much worse since her marriage. She also presented various uterine symptoms, and, on examination, I found the neck of the uterus and the upper region of the vagina slightly inflamed, but not ulcerated. The local disease gave way, the general health improved under appropriate treatment, and in the course of about two months I was able to pronounce her well, and to state that an important cause of sterility having been removed, it was not at all improbable that conception would subsequently take place. The uterus was then perfectly



healthy, but the cervical cavity was too small to admit the uterine sound in its entire extent, and I could not pass the smallest bougie through the os internum. Both the lady and her husband being anxious for a family, I mentioned this condition, and stated that it might be desirable at some subsequent period to remove the contraction, if it did not spontaneously disappear, and if the sterility persisted. A few months later I again saw her; her health had still further improved, and the uterus was, as before, free from disease, but the cervical contraction was not in any sense diminished. It was therefore decided that the dilatation should be effectually carried out on her return from the seaside, where she was about to spend a couple of months. Before she had been there a fortnight, however, she became pregnant. Had dilatation been effected when I last saw this lady in town, previous to her journey to the seaside, the inevitable conclusion would have been that it was the result of the dilatation only. The sequence between cause and effect would have appeared undeniable, and it would have received the entire credit of having removed the sterility.

Such instances as these show how difficult it is to arrive at the truth in the estimation of the value of remedial agents, and also that individual cases, however apparently conclusive, prove nothing. No medicinal or surgical agent can be considered the cause of a subsequent result, unless that result *generally* follow its administration or use. Judged by this test, dilatation of the cervical cavity has not proved in my hands a remedy for sterility that can in any respect be depended upon. I have had, however, cases in which sterility unaccompanied by inflammatory disease has been clearly removed by dilatation; inasmuch as the patients, who had been married for many years without family, subsequently became pregnant. In these cases the contraction has generally been extreme and congenital. I do not, therefore, hesitate to advise and to resort to dilatation both in congenital contraction of the cervical canal, and to contraction the result of inflammation, when conception does not take place after a reasonable lapse of time—that is, after two or more years of married life, or after six or twelve months of immunity from the uterine inflammatory disease.

There are various means by which the cervical canal may be dilated. Dr. Mackintosh, of Edinburgh, to whom the idea appears to have first occurred, used metal bougies of different sizes, which he introduced into the cervix, allowing them to remain for a few minutes, and gradually increasing their size; thus applying to the dilatation of the cervical passage the principles which regulate that of the urethra in the male. Dr. Simpson has made several ingenious modifications and improvements in the dilatation of the cervical canal. Instead of long bougies, which can only be retained a short time, he uses small ones, only two and a half inches in length, terminated by a bulbous disk or extremity. The vagina closing round this disk prevents the bougies being expelled from the cervical canal by its contraction. A small-sized bougie is at first introduced and allowed to remain four-

and-twenty-hours, or longer, and the size is gradually increased as the canal dilates, until the os internum itself is opened, and the sound passes freely into the uterine cavity. Dr. Simpson also uses for the purpose of dilatation, cones of prepared and compressed sponge, which are introduced into the cervical canal by means of a stilet as far as they will pass, and which by their gradual expansion under the influence of the moisture and heat of the parts, gently dilate and open the cavity of the uterine neck. An instrumental dilator has long been used, formed of two blades, the length of the cervical canal, which open by the action of the handle, and when closed merely represent a conical staff. The blades are introduced closed, and on being opened, forcibly dilate the cervical canal. Dr. Simpson has likewise invented a very ingenious instrument, which he calls the *uterotome*, for dividing the os internum of the cervical canal. It presents a long narrow blade concealed in a bougie-like extremity, which also opens by the action of the handle.

Dilatation by means of the ordinary metallic sounds is tedious and inefficient. Owing to the great thickness of the walls of the cervical canal, and to the considerable amount of contractile power which they possess, the mere gentle introduction of a metal bougie for a few minutes every two or three days, is all but powerless to efficiently dilate a contracted cervix; at least, it has appeared so to me when I have tried it. On the other hand, if force is used, the space gained is more likely to be obtained at the expense of contusion of the tissues which form the immediate parietes of the cervical canal, than by the dilatation of the walls of the cervix, which it must not be forgotten, are a third or half of an inch in thickness.

This latter objection applies with even greater force to the metallic dilator. Such an instrument might rationally be used to dilate a mere membranous canal, but in the cervical cavity it must act to a very great extent, by bruising and crushing the tissues which it is meant to expand. It should therefore be entirely discarded.

When dilatation by the repeated use of bougies is attempted, it is much better to use wax or gum elastic bougies than metallic ones. By their careful employment much may be done without any injury to the patient, and in slight cases of contraction nothing more may be necessary. The wax bougie may be used every other day, until the canal be sufficiently dilated. The patient should retain in situ the bougie cut short for some hours.

The small bulb-ended metal bougies of Dr. Simpson are free from the objections which apply to the metallic dilators, and, if carefully used, are safe and effectual. No force need be employed, as we depend for dilatation on their gradually tiring out, as it were, the contraction of the part of the cervical canal into which they are introduced. A size is chosen which just passes, and which is sufficiently small to be grasped by the cavity of the cervix. Its sojourn in the cervical canal, if *there is no inflammation present*, is unattended with irritation or inconvenience, and in the course of a period varying from a few hours

to four-and-twenty, the cervix relaxes around it, and becomes sufficiently open to admit of a larger-sized bougie. The great difficulty with these bougies is their introduction, on account of the large bulb. If the vulva is relaxed and open, nothing is easier; but if, on the contrary, as is very often the case, the vulva is small and contracted, it becomes extremely difficult to introduce the bulb, and subsequently to guide the other extremity to the os uteri, even with the assistance of the finger and of the director which fixes in the bulb. I endeavored at first to obviate this difficulty by having metal bougies made with a very small bulb, keeping them in situ by a small piece of sponge, introduced into the vagina as a pessary. This plan, however, does not answer, as the bougie, not having the support of the bulb, is easily expelled: moreover, the presence of the sponge is often attended with vaginal irritation. I have, however, succeeded in rendering them much easier of introduction by diminishing the size of the bulb, making it of one thin sheet of metal with a slight rounded rim, instead of hollow as is the case with Dr. Simpson's.

Another improvement which I consider I have effected, is to give the stem a slight anterior curve, to make it suit the anterior curve which I have discovered to exist in the uterine cavity (p. 25). I first introduce a small wax bougie into the uterus, leave it a couple of minutes, and on its withdrawal bend the stem of the bulb so as to imitate the anterior curve which the wax bougie all but invariably presents. The metallic bougie must give much less discomfort and sit easier when it thus adapts itself to the natural curve of the uterine passages.

The compressed sponges, as suggested by Dr. Simpson, are even more efficacious than the bulb-ended metallic bougies for the dilatation of the cervical canal, especially in the earlier stages of the operation, and I consequently more frequently resort to them than to any other means of dilatation. I use very small cones, from an inch to an inch and a half in length, tapering down to a small blunt point, and covered with a thin coating of wax. One of these cones—a small one—is introduced into the cervical canal, by means of the stilet, as far as it will go—quite within the canal, if at all possible—and there left for four-and-twenty hours. The wax as it melts forms a coating to the sponge, and protects the tissues which it imperceptibly dilates. The slow dilatation of the sponge, under the influence of capillary expansion, thus overcomes the resistance of the cervix, and effectually opens the region in which it is introduced without irritating the mucous membrane. This, however, is only the case when the sponge is well covered with wax; if left bare, it irritates the mucous surface and makes it bleed. The sponge should be allowed to remain for twenty-four hours, when the patient herself can easily withdraw it, by means of a small piece of silk or thread, which should be fixed to it, and should be sufficiently long to protrude externally. The expansion of the sponge is usually unattended with pain. Sometimes, however, the patient suffers slight pain or says that she feels as if



something were being forcibly opened about the womb. If the sponge is allowed to remain more than twenty-four hours, it is generally expelled spontaneously into the vagina, apparently by the pressure of the mucus naturally secreted above the point where it lies. If, however, it is introduced very far into the cervical canal, so as to admit of the os closing over it, it may be retained and require extracting, especially if the string breaks, as sometimes happens. If imperfectly introduced, it may fall out long before, and be found lying in the vagina. It is generally easy to tell which part of the tent has expanded in the cervical canal, as it is much less swollen than that which has not entered, and which has freely expanded in the vagina. A decided contraction indicates the line of demarcation. If the entire tent is uniformly and fully developed, as if it had been soaked in water, the probability is that it either never was really introduced into the cervical cavity, or that it was expelled into the vagina before it had time to dilate.

When the os uteri is much closed, and very small tents are introduced, the use of a speculum cannot well be avoided, as the warmth of the vagina softens the tent or its point, before it can be passed into the os. When the os is more open, and a larger tent can be employed, the speculum is not required, as it can then be easily introduced with the assistance of the director or of a stilet, the patient lying on her left side. The first tent will probably only pass a quarter or half an inch; but each time a new tent is inserted it penetrates further, until the entire cervical canal can be dilated. As I only introduce the tent every second, third, or fourth day, in order to prevent irritation, the interval between two menstrual periods is generally required in order thoroughly to dilate the canal. The day the tent is withdrawn, as there is generally a certain amount of mucous discharge, I recommend a quantity of tepid water, or an astringent solution, to be gently injected into the vagina, to allay any slight irritation which the interference may have occasioned. The os and cervical canal being mechanically opened by the tent, after its removal injections should be used at first with great care. I have known uterine spasms to occur apparently from the injected fluid, penetrating into the open os.

By thus progressing carefully, ascertaining occasionally the state of the parts by instrumental examination, and suspending the dilatation, if any irritation of the mucous surface is produced, in the course of two or three weeks the cervical canal may be efficiently dilated without any local injury whatever. This is certainly not always the case when more violent means are used. I have met with repeated instances in which much mischief had been produced by forcible dilatation, and by blind attempts to dilate the cervical cavity when in a state of inflammation.

At one time I used Dr. Simpson's uterotome frequently, in order to divide the os internum, and found it a very efficient means of removing the apparent constriction of that region. A mere slit, laterally, on each side, not more than a line in depth, which is scarcely felt by

the patient, is all that is required to establish a free communication between the two cavities. In order, however, to make this slight incision, the instrument must *pass through the os internum*, as otherwise the blade could not be made to bear on the spot which it has to incise; and since I have carefully analyzed the state of this region, when free from disease, I have ascertained that a degree of openness, that admits the easy passage even of the uterotome *through the os internum*, is in reality more than is met with in the healthy female; and that, consequently, there can be no sound reason for increasing it still farther. When, therefore, by means of the sponge tents, the cervical cavity has been dilated, and the os internum relaxed, so as to admit the passage of a moderate-sized bougie, or of the extremity of the uterotome, I now consider that the dilatation has been carried quite as far as is necessary or desirable, and consequently very seldom resort to the uterotome.

After the os internum has been divided by the uterotome, there is generally merely a slight oozing of blood for a few minutes. In some cases, however, which have come to my knowledge in the practice of others, this operation has been followed by frightful and all but fatal hemorrhage. In these cases the incision was probably more than superficial, and must have divided some considerable vessel. Such accidents imply the necessity of caution when the uterotome is used, and the wisdom of rather making two or three small incisions than one large one. Were no means adopted to prevent union, the incised surfaces would probably heal by the first intention, in twenty-four hours; it becomes necessary, therefore, to introduce a moderate-sized metallic bougie, taking care that it be pushed sufficiently far to pass the os internum. This bougie should be retained four or five days, if its presence is unattended with pain or discomfort; if otherwise, it may be withdrawn for a few hours, or even a day, and then reintroduced.

By the above means the incisions may be prevented healing, but in the course of a few weeks or months the os internum invariably closes again. I have never examined a patient on whom I had performed this operation, after a lapse of some time, without finding the os internum as much closed as at first. Nor is it surprising that this should be the case, the os internum being *naturally closed*, as I have elsewhere explained, so that any attempt to establish a permanently free communication between the two cavities of the cervix and uterus is merely an attempt to establish what is not a natural condition.

*Rest, Exercise.*—A patient suffering from acute or even subacute inflammatory disease of the uterus or of the neck of the uterus, should remain, as much as possible, in the early stage of treatment, in a reclining posture, on a couch or easy chair. In this position there is no pressure on the uterus, and its gravity is not called into action; in the erect posture, on the contrary, the weight of the uterus drags it down, and in walking it is thrown against the adjoining tissues, which

gives rise to pain. Complete rest is more especially advisable after any decided surgical interference, when the vitality of the inflamed tissues has been raised by local applications, and when the uterus is consequently more sensitive than usual. Complete rest should, however, only be prescribed when absolutely necessary, and the patient should be emancipated from it as soon as possible.

Some practitioners make complete rest, in the recumbent position, a prominent feature in treatment. They do not allow their patients to put their feet to the ground, even insisting on their being carried for months from the bed to the sofa. This practice I consider a very great mistake, destructive to the general health, and unnecessary for the cure of the local disease.

When the uterus is the seat of acute inflammation, and often in chronic, every movement is painful, and then rest in bed or on a sofa is indispensable. But, under treatment, this stage is usually a temporary one, and the patient generally soon reaches a state in which she becomes able to bear gentle motion of one kind or another. As soon as this is the case, a quiet drive in an easy open carriage, in fine weather, daily, or every second or third day, is of great benefit to the general health, and to the spirits; thereby reacting favorably on the local disease. Some persons who cannot bear the motion of a carriage, can bear that of a Bath chair, or a short sauntering walk, in which case the one or the other should be preferred. The patient should, however, under every circumstance avoid standing, kneeling, stooping, going up and down stairs, and ascending hilly ground. Horse exercise also is decidedly injurious, unless it be a mere walk on a quiet pony. The position usually adopted should be that which is the easiest; in a reclining or arm chair, or on a sofa, according to individual experience. Patients vary much in this respect, without apparent cause. Some females, however, when there is very little the matter with them can bear no kind of exercise without feeling pain and suffering from an aggravation of all their symptoms, and are only easy lying or reclining. In such cases we must give way for a time, although knowing that the general health will inevitably suffer from the continued inaction and confinement.

The necessity of absolute and constant rest in the recumbent position in uterine inflammation, chronic as well as acute, was taught and strictly enforced by Lisfranc, who used to keep his patients constantly lying down for months and even years. The fallacy of his views, however, became very apparent to me at an early period, and is well exemplified by the results of the out-treatment of uterine disease in public institutions. The women who attend at hospitals and dispensaries are mostly the wives of artisans, with children and husbands to attend to, and very small means. They are obliged to be up and at work from early dawn to late at night, and cannot lie by when suffering from chronic uterine disease, and yet they generally get well eventually, and not unfrequently with less disturbance of the general health than is the case with many women in the higher walks of life, who, if



so required, can and do lie on their sofas for year after year. The recovery at home, however, of women in the lower class of life from uterine disease, is always tedious, owing to this unavoidable *over exertion*, and also to the many other unfavorable influences to which they are exposed.

Although it is not necessary for the generality of patients suffering from inflammatory disease of the uterus, to long remain confined to a sofa or on an easy chair, unnecessary exertion, standing, and going up and down stairs, should be avoided, not only during treatment, but also during convalescence. At this stage of the case we must avail ourselves of the freedom from local pain to improve the general health by every possible means. A gentle walk, taken for air more than for exercise, may always be allowed, if there is not much hypertrophy and displacement, and if it does not bring on pain or uneasiness. In a word, we must be guided by the nature of the symptoms, the amount of disease, and the sensations of the patient, always bearing in mind that absolute confinement is an evil which we cannot avoid in some cases, but which should never be enforced without necessity.

During the treatment of uterine inflammatory disease, separation of the husband and wife should be enforced. Even this, however, is a rule which may be occasionally relaxed, on social grounds, without any serious risk to the patient. In some, happily exceptional, instances, the prolonged separation of the husband and wife may seriously endanger their future happiness, affections may be alienated, other ties formed, and irreparable mischief produced. If the medical attendant fears such a result, he must modify his advice accordingly. In many cases, the injunctions on this score are not at all, or only partially attended to, and yet the patients get well. The recovery, however, in such patients is always more difficult, more prolonged. Often, indeed, the practitioner will feel convinced, in unfavorable and tedious cases, that this is the difficulty in his path which he really has to contend with, a difficulty against which he may be powerless.

Rest of the sexual organs alone, uncombined with treatment, however, does not cure confirmed uterine disease, or allow it to die out. With some practitioners complete separation is the principal means of treatment, and I often meet with married women suffering from inflammatory disease of the uterus who have been sexually separated from their husbands for one or more years on this ground, but in vain. The disease may not be aggravated, as it otherwise might have been, but it remains the same. The history of the wives of naval and military men, of widows, and of unmarried women so suffering, gives the same results. Severe confirmed disease must be treated to be cured.

*The Bladder and the Rectum.*—We have seen that the bladder and the rectum generally participate, more or less, in the congestion which accompanies inflammation of the neck of the uterus, and that sometimes inflammation extends from the uterus to these organs. When this is the case, the means employed to mitigate the uterine disease—

leeches, abdominal poultices, hip-baths, and vaginal injections—are equally efficacious in allaying the vesical or rectal irritation—all the morbid symptoms which the pelvic viscera present, subsiding at the same time.

Irritability of the bladder, the result of extension of inflammatory action, must not be confounded with that which is produced by the contact of morbid urine. I shall revert to this latter form of vesical irritability, when speaking of the treatment of depraved digestion and assimilation.

I am in the habit of treating the irritable state of the mucous membrane of the lower bowel, and the kind of paralysis of its muscular action which is so frequently met with, by a very simple means—the daily injection of a small quantity of cold water into the rectum. Injections of large quantities of warm water relax the bowel, and appear, if long persevered in, to increase, or even to occasion, constipation. But this is not the case with the injection of *cold* water, of cold linseed-tea, or of cold milk-and-water, when it can be borne, as is generally the case. It restores the contractility of the muscular fibres, and allays irritation of the mucous membrane. If injected slowly, in a small quantity, not more than half a pint at the utmost at about 64°, its presence is seldom attended with any uncomfortable sensation whatever. Indeed, it is not even necessary to take off the chill, unless the weather be cold, or the feeling of the patient requires it. In some exceptional cases, the impression of even moderately cold water on the bowel produces spasm.

When the rectum is perfectly inactive, and allows hardened feces to remain for days in its lower region, without giving any intimation to the patient of their presence, or without having power to contract and expel them, as generally occurs in chronic uterine disease, the daily use of the cold injection a short time after breakfast is invaluable. It clears the lower part of the bowel, without the patient being obliged to have recourse to aperient medicines, otherwise indispensable, and may be continued for months, or even years, without the slightest inconvenience or injurious effect. If the constipation is situated higher up in the intestinal canal, and the feces do not reach the rectum, injections of all kinds are, of course, inefficacious. But even then, I often advise my patients to persevere in the use of the cold injection, merely as an additional means of tonifying the pelvic viscera, and in the anticipation of its gradually restoring the contractility of the rectum, and thus preparing it for its duty, when other causes of constipation have been removed.

### *General Treatment.*

Although of the most *vital importance*, the general medicinal treatment of a patient suffering from inflammatory disease of the neck of the uterus may be considered accessory to the local means employed. That such is the case, is proved by the fact that general medication

alone is constantly found to be totally powerless to subdue the disease; whereas, by local means, with attention to dietetic and hygienic rules only, the uterine inflammation may, generally speaking, be entirely subdued, and its sympathetic reactions removed.

The various symptoms indicating disordered digestion, assimilation, nutrition, circulation, and enervation, although sometimes constitutional, are generally sympathetic—the result of the reaction of the diseased organ on the functions of organic and animal life, with which it is connected by its nervous system. It, therefore, stands to reason, that when the cause of all the mischief is removed, the economy must rally, even unassisted, unless the constitution be defective, or too far depressed by disease. Fortunately, this is seldom the case, the system mostly appearing to retain the power of rallying, even when it has been lowered by years of disease. Thus I have frequently known females recover from the all but unassisted energy and vitality of their constitution, although for twenty years or more the existence of chronic uterine inflammation had rendered them confirmed invalids. We may therefore hope much, especially in good constitutions, from the latent strength and vitality of the economy, when local disease has been removed; independently of what we can do by medicinal and hygienic means, to assist the restorative efforts of Nature.

Although I thus give by far the greatest share to Nature in the restoration of the general health, when the uterine disease has been removed, I must not be thought to depreciate the powers of medicinal and hygienic means of treatment. Much may, no doubt, be done through their agency to hasten the recovery of the health and strength of the patient; and without their assistance all local treatment may be vain.

The principal characteristic of the disordered state of the digestive system, which almost invariably accompanies chronic inflammatory disease of the uterine organs, is weakness. The stomach evidently participates in the general debility, and in the depression of the nervous system, and loses the power of transforming the food ingested into healthy chyle—digestion being either rapid and imperfect, or slow, laborious, and painful.

Such being the case, it evidently follows that the plan generally pursued with patients thus suffering, who, because they are weak and debilitated, are gorged with meat and stimulants, and drenched with steel and quinine, must be injurious instead of beneficial. That it is injurious, my daily experience demonstrates. I constantly meet with patients who have been thus treated for months and years, and who, instead of deriving any benefit from the good living and tonics which were to build them up, have gradually become more and more debilitated, emaciated, and feverish.

The fact is, that in such cases a large proportion of the food that is taken passes away undigested; whilst that which is digested with difficulty gives rise to such imperfect chyle, that, when the lymphatics pour it into the blood, it is partly eliminated by the kidneys, as we



have seen, in the shape of urate of ammonia, uric acid, oxalate of lime, triple phosphates, &c., giving rise, at the same time, to headache, palpitation, heartburn, restlessness, nightmare, and other similar symptoms.

It should never be forgotten that loading the stomach of a debilitated invalid with nourishing food is not nourishing to him, and that temporarily raising the circulation and the nervous system by the repeated administration of wine and other stimulants is not strengthening him. It is not what is taken into the stomach that nourishes, but that which, being thoroughly digested, furnishes a healthy chyle, susceptible of being assimilated, and of repairing the wear and tear of the system. Thus it is that a patient may starve and lose flesh on a copious dietary of meat and wine, or ale, three or four times a day, and grow fat on water, eggs, poultry, game, milk, or any other light article of nutritious food, in sufficient quantity to contain the necessary elements of nutrition, which the stomach can really digest.

The same remark may be made with reference to the principal tonic medicines, such as iron and quinine, which, although, universally administered, irrespective of the state of the digestive system, are, in reality, totally incompatible with a disordered digestion. When given under such circumstances, far from being beneficial, they often positively do harm—occasioning headache, flushing, and general uneasiness, because the debilitated and disordered stomach cannot digest them. We see this fact exemplified in the treatment of intermittent fever. So long as the tongue is loaded, and the stomach out of order, it is of but little avail to give quinine. In order to insure its being assimilated, so as to produce its specific influence, it is first necessary to restore the integrity of the digestive system.

The only tonics that I have found beneficial in this morbid state of the digestion, are the mineral acids and vegetable bitters, and more especially the former. Stimulants, such as spirits, wine, and malt liquor, in most cases, except in very small quantities, are decidedly injurious. They do not rouse the vitality of the stomach, and enable it to digest food, as is generally supposed, but tend, on the contrary, still further to increase the depraved condition of its secretions, and to diminish its power of transforming food into healthy chyle. Although this is all but invariably the effect of their free administration in these cases, they are nevertheless generally advised and taken as a means of restoring strength. The patient is easily induced to believe that such is really the effect produced, as the immediate result of the ingestion of stimulants of this description is to temporarily dispel the sensations of extreme languor, debility, and depression experienced, and to give artificial strength, which conceals the real state of the system. In order, therefore, to appreciate correctly the actual condition of a patient who has been thus freely taking stimulants, she should be made to forego their use all but entirely for a few days, and then the debility will be seen as it really is. The nausea and sickness which often accompany uterine disease are often aggravated, as I have elsewhere stated (p. 105), by their use or abuse. I have discovered

this to be the case in some of the most obstinate cases of sickness that I have met with, and should advise the private habits of the patient to be narrowly scanned whenever uncontrollable sickness occurs. The first effect produced by brandy or wine in these cases appears to be to allay the sickness for a few minutes or hours, but it soon returns, and, in the long run, they aggravate and perpetuate every symptom for which they are taken. These observations also apply to diffusible stimulants, such as ammonia and sal volatile, when taken to excess. For all such excesses the patient's medical attendants are often directly responsible, having paved the way by their dietetic rules and prescriptions.

The habitual use of opium and its salts, and of narcotic medicines generally, has the same pernicious effect. Their continued action both injures the patient, and conceals the real state of her health by the false calm or excitement which it occasions. The constant administration of opium in order to soothe pain, in cases in which the real nature of the disease is not understood, and in which, consequently, medical treatment utterly fails to subdue, or even to mitigate, the sympathetic nervous symptoms, is more especially pernicious. It not unfrequently so reduces the patient to the state of the professed opium-eater, that after uterine disease is subdued, she may have to endure intense mental and physical misery before the habit can be conquered, and the system restored to a natural state.

The habit of taking large doses of laudanum as a means of lulling the bodily pains, and of soothing the mental depression and distress so frequently experienced in chronic uterine disease, is much more common than is generally supposed. Laudanum, or some other preparation of opium, is at first prescribed medicinally, in small doses, by the medical attendant. The patient finding relief from it, of her own accord gradually increases the dose, often concealing the fact from those around her, until at last the quantity she takes daily becomes enormous; a wineglassful of laudanum, fifteen or twenty grains of opium, or of some salt of morphia, or even more. When once this point has been attained, she may be considered a confirmed opium-eater, and the effects of the opium on the economy are pretty much the same as those which it would produce on a non-diseased person. Not only are the pains of disease obscured whilst the patient is under the immediate influence of the drug, but the nervous system is calmed, and the mind for the time recovers its pristine clearness and power. Thence it is that the female opium-eaters I meet with, under these circumstances, are principally very intellectual persons, who fly to it as a means of enabling them to accomplish their social duties and obligations, notwithstanding the prostrating influence of the disease under which they are laboring. They cannot resist the temptation offered to them by a drug which, even for a time, restores to them their former mental energy, and enables them to soar above the frailties of their corporeal frame—and that although perhaps aware that they are sowing the seeds of destruction in their body, and aggra-

vating the disease from which they suffer. One of the results of the habit of opium-eating experienced by some, but not by all, is a tendency to dream whenever sleep closes the eyes. The dreams may be, and often are, for a time, wild, fantastic, but agreeable; later, however, they become horrible and terrifying, assuming the form of a nightmare, which pursues the patient whenever she attempts to sleep. I have repeatedly met with illustrations of both these conditions.

Under the influence of this pernicious and fatal habit, not only does the local uterine disease make rapid strides, but the functional derangements which it occasions increase in the same proportion, and others supervene, more especially the result of the opium. The symptoms which I would more especially refer to the latter are congestion and irritation of the liver, giving rise to frequent attacks of bilious vomiting and purging, alternating with obstinate constipation. The general nutrition also flags, and in the course of time the emaciation becomes extreme. When I meet with cases of this kind, I merely diminish the quantity of opium taken until the uterine disease be cured, and then oblige the patient either to leave it off by degrees or altogether and at once. Whichever plan is adopted, the attempt is always a severe trial, and requires great courage on the part of the patient, and great and constant attention on the part of her medical attendant. The mental prostration and distress, and the bodily restlessness and agitation for the first few weeks are often truly deplorable. I have always succeeded, however, when the patient has had the necessary courage, in breaking the habit, although often only after great trouble and anxiety. It is a fact that should be borne in mind, that patients are generally very loth to confess to this habit. I have repeatedly attended persons for many months without being made aware of it. In several instances, I have only discovered the fact from the utter failure of large doses of opiates to produce any perceptible effect, when administered by myself.

From what precedes, it must be evident that the strengthening plan of treatment generally pursued in cases of general debility and functional derangement, the result of unrecognized chronic uterine inflammation, is essentially wrong. It is adopted under the impression that the languor and debility are idiopathic, the evidence of a low vitality, and to be met by tonics. Nothing, however, as we have seen throughout this work, can be more irrational than these views. They are founded, on the one hand, on ignorance of the existence of local inflammation, and on the other, on neglect of the injurious effects which constantly follow the attempt to increase the nutrition of the system, by stimulating and over-taxing the powers of a stomach debilitated by disease. Great as these errors are, however, they are daily committed by the most eminent practitioners. I am constantly consulted by anemic females laboring under chronic uterine disease, and great derangement of the digestive and nutritive system, who have for years been plied with animal food, stimulants, and tonics, and tortured



by exercise, in order to remedy what was erroneously considered to be "idiopathic debility!"

The principles on which the disordered state of the digestive and nutritive functions in these cases should be treated are twofold. Firstly, the local uterine disease, which, through its sympathetic reaction on the stomach and digestion, occasions these morbid conditions, should be subdued by the means already enumerated. Thus all morbid reaction ceases, without which general treatment is vain. Secondly, the stomach and digestion should be taxed as little as is consistent with the proper nutrition and repair of the general system.

The stomach is a muscular organ which, even in health, like all other muscular structures, requires rest. The heart itself, although apparently always in motion, is so constructed, that its muscular elements rest during a considerable part of the twenty-four hours. How much more necessary, therefore, must rest be to the stomach when it is debilitated and diseased, when its secretions are depraved, and when its powers of carrying out the processes of digestion are weakened. And yet this is the very state that is often chosen, as we have just seen, to pour into it, at short intervals throughout the twenty-four hours, animal food and irritating stimulants; the former requiring, it should be recollected, three, four, or more hours of constant trituration. This system is adopted under the plea of general debility, with a view to invigorate the system by nourishing food. But, of what use is it to furnish materials in such abundance, if the stomach, which is to transform them into chyle, participates in, or even originates, the general weakness? Of what use, if, unable to accomplish the duty imposed upon it, this organ either gets rid of the food in an undigested state, or elaborates imperfect chyle; which, when it reaches the circulatory system, merely poisons the economy, and is speedily eliminated and thrown out by its excretories the kidneys, in the shape of urate of ammonia, oxalate of lime, &c.?

The more rational course, the one which I generally follow, is, to allow the stomach as much rest as possible, taking into consideration that by its labors the wants of the system have to be repaired. I treat it as I would a sprained joint. No person in his senses would think of walking all day with a sprained knee, or ankle, in order to strengthen it; and it appears to me equally absurd to keep the weakened or diseased stomach constantly full and at work, eighteen or twenty hours of the twenty-four, in order to invigorate it. Actuated by these views, I discard, as a rule, in the treatment of morbid conditions of the stomach, the precept generally followed in dyspepsia—"a little substantial food taken often." On the contrary, I only allow animal food once or twice a day, restrict the patient to three or four light meals, and endeavor to arrange her diet, so that everything taken should be as easily digested, and consequently as soon out of the stomach, as possible. By these means, the "labors" of the stomach may be limited to eight or ten hours in the twenty-four, and yet a sufficient quantity of chyle be furnished by digestion to supply the

wants of the economy. Indeed, under such a system they are better supplied than by the imperfect digestion of many times the amount of more solid, and, according to the popular idea, more nourishing food.

The constant craving for food, and the sinking sensations which are so often present in a disordered state of the digestion, are decidedly morbid symptoms. Their presence is owing either to the food ingested leaving the stomach in a semi-digested state, or to the chyle formed being morbid, and unfit for the purposes of general assimilation, and to its being eliminated by the kidneys in a short time after it reaches the blood. This fact illustrates the fallacy of the popular opinion, that the stomach should not be allowed to remain empty during the state of wakefulness. If the food taken is thoroughly digested, and affords to the system sufficient reparative elements, hunger is appeased for some time, and the emptiness of the stomach is borne without any uneasy sensation. It is, indeed, a period of rest for that organ, during which it recovers its strength, as it were, and prepares for subsequent exertion. If the food, on the contrary, owing to weakness or disease, is not so digested as to afford to the economy the elements of nutrition, hunger is again felt within a very short time after its ingestion. This morbid craving is thus more effectually met by a light and rather spare diet, than by an abundance of solid food, imperfectly digested, which only perpetuates and increases the evil.

The form of dietary which I generally recommend is as follows:—For breakfast—nine or ten o'clock: thin cocoa made with milk, or very weak tea, with stale bread-and-butter, and an egg or fish if possible. For luncheon—one or two o'clock: an egg, or broth, or a light farinaceous pudding, or merely bread-and-butter. For dinner—five or six o'clock: fish, poultry, game and meat, alternately or combined; vegetables if they agree. The dinner to be completed with some light pudding, rice, bread-and-butter, sago, arrowroot. If the digestion is very much disordered, the patient had better confine herself to fish, game, and poultry for a short time. When meat is taken, not more than one or two ordinary-sized mutton-chops should be eaten at first, until the powers of the stomach begin to rally; when poultry, not more than the wing and part of the breast of a good-sized fowl. In the evening, a little very weak tea may be allowed, without anything solid, with or without bread-and-butter; or a cup of bread and milk or arrowroot.

If in these three meals the invalid patient takes from ten to twelve or sixteen ounces of bread, from twelve to sixteen ounces of milk, in one shape or another, from four to six or eight ounces of animal food, a little butter, vegetables in small quantities, if they agree, and broth, or an egg or two, as accessories, there need be no fear of the system not being nourished. This amount of food is not, in reality, a low diet, and is quite sufficient to supply all the wants of the economy, not only in an invalid, but also in most dyspeptic persons, otherwise in health, in the absence of any great demand upon the system from exercise or

exposure. It is a singular fact, the truth of which is daily more and more demonstrated to me by observation, that those who suffer from dyspepsia extract a great amount of nourishment from a comparatively small quantity of food. Even when in perfect health, with them the wants of the system are supplied from a less amount of nutritive elements than is required by persons who are free from any tendency to dyspepsia, and whose digestion is much stronger.

As I have already stated, all kinds of stimulants, including strong tea and coffee, are prejudicial, except in very moderate quantities. The patient should therefore be limited to water, or toast-and-water, and very weak tea, as a beverage. A little strong coffee may often be taken in milk, for breakfast, without any injurious effect. When it can be borne, it is an agreeable change; but the milk should be merely flavored with coffee. Thus taken, it is the *café au lait* of the Continent. Strong tea to many persons thus suffering is a very pernicious beverage, giving rise almost immediately to spasms and cardialgia. A glass of sherry in a tumbler of water, or a glass or two of claret, or some other light wine, also diluted, may often be allowed with advantage at dinner, especially if the stomach symptoms are not serious. Malt liquors seldom agree in dyspeptic states. Half a tumbler of bitter ale, filled up with water, I occasionally find well borne.

Some patients, especially when they are thus made all but water drinkers against their inclination, fall into the error of not taking enough fluid. It should, however, be recollected, that fluid is just as necessary to carry on the operations of the animal economy as food, and not less than about two pints, in one shape or another, should be taken in the twenty-four hours. I have often known the urine to become permanently lithatic for want of the necessary quantity of fluid.

The regulation of the hours for meals is of great practical importance. As a general rule, I do not approve of breakfast being given to invalids or dyspeptic patients as soon as they are awake, in bed, or immediately on rising. I think it much better to wait a little, and to allow the stomach time to recover itself, and thus to prepare for the morning meal; the more so, as hunger is rarely experienced immediately on awaking in the morning. From nine to ten o'clock, therefore, according to the hour at which the patient rises, is quite early enough. Dinner must be early or late, according to the habits and constitutional peculiarities of the patient. Persons who have dined early all their lives seem to digest their principal meal better in the middle of the day than later. They should therefore dine early, but not sooner than two, if possible, as otherwise the system becomes exhausted before night, and supper is almost imperatively demanded, under the penalty of loss of sleep. When an early dinner is taken, of course luncheon is not necessary, but the tea must be more substantial, and taken late, between six and seven, so as to render supper unnecessary. There are many persons, however, who cannot digest animal food early in the day; it would seem with them as if the sto-



mach required the entire day to rally and collect strength for its digestion. Such persons should merely make a light luncheon in the middle of the day, and dine at five or six at the latest, making that the last meal, or merely taking a cup of weak tea later, for sociability.

I have been thus minute in laying down dietetic rules, because it is principally on their observance that I depend for the recovery of the digestion and nutrition of the patient, when the local uterine disease has been subdued. Great assistance may be derived, it is true, from medicinal agents, but assistance only. If the powers of the stomach are constantly overtaxed, and it is continually irritated by stimulants, medicinal treatment merely mitigates the intensity of the morbid symptoms, failing to restore the patient to health, even when all disease is removed.

The above dietetic rules, however, it must be remembered, are for dyspeptic invalids, and not for persons in health taking exercise. As the tone of the stomach returns, as the powers of digestion increase and more exercise is taken, the diet may be fuller and more animalized, if the patient finds it to her advantage. For further details, I must again refer to my work on "Nutrition in Health and disease."

The medicinal preparations which I find of greatest use in these conditions of the digestion are the alkalies, and principally liquor potassæ, the mineral acids, more especially dilute hydrochloric acid, the vegetable bitters, hydrocyanic acid, and the tris-nitrate of bismuth. When administering the alkalies or acids, I generally give them largely diluted with water, about an hour after breakfast and dinner, having remarked that the ingestion of fluid at that time appears to prevent the formation of lithates in the subsequent periods of digestion. At least, if they are formed, they are often retained in solution, so as not to render the urine turbid. This precaution is more especially advisable when the presence of lithates in the urine creates or keeps up irritability of the mucous membrane of the kidneys, ureters, and bladder.

When a patient whose real debility has been long concealed by stimulants and high feeding, is placed on a light diet, and deprived of the accustomed extra stimulation, she necessarily for some time feels excessively prostrated, languid, and unwell. Whilst taking rum-and-milk early in the morning—a favorite prescription with some practitioners—porter or ale at luncheon, and two or three glasses of sherry or port at dinner, the system is kept in a state of feverish excitement, which affords artificial strength, and, flushing the countenance, gives to the face, in the eyes of a superficial observer, the hue of health. It is consequently often difficult to persuade the patient and her friends that it is better for her to be left to her real weakness, to appear as pale, as languid, and as debilitated as she really is. There can, however, be no doubt that such is the case. If a patient is really debilitated and anemic, her state should be accepted by herself, her friends,

and her medical attendant, and met by therapeutic means directed to the morbid conditions which occasion the anemia. It is infinitely preferable that, until her health be really improved, she should lie languid and exhausted on a sofa, than that she should be performing, with misery to herself, in an imperfect manner, the ordinary duties of life, under the excitement of wine and other stimulants.

If the patient has good sense enough to accept the debility as a symptom of the disease for which she is under treatment, and to follow these directions, she soon feels the benefit of the change of system. She ceases to be alternately flushed and excited, or miserably depressed, her sensations gradually become calm and more natural, and as the local disease improves, and the sympathetic reactions decrease, she gradually regains strength, not artificially and temporarily, but really and permanently.

Some females, however, are so self-willed and so imbued with the idea that strength can only be regained by feeding and stimulants, or are so much influenced by relations or previous medical attendants, who entertain these opinions, that no reasoning can convince them that they would not die of starvation if they were not to be continually eating meat and taking "support" in the shape of porter, wine, or spirits. With such persons it is in vain to argue; the languor at first felt in the absence of the accustomed stimulation is taken as evidence of its being indispensably requisite, and in order to retain their confidence during the treatment of the local disease—the original and principal cause, after all, of the morbid condition—liberal concessions must be made with regard to diet. When this is the case, the local disease eventually gets well, although often with much trouble, but a disordered state of the digestion frequently remains. In some rare instances, however, stimulants, medical or other, *must* be given, although injurious, owing to the system being reduced so low by disease as to render temporary stimulation indispensable.

The irritability of the mucous membrane of the urinary organs, kidneys, ureters, and bladder, but more especially of the latter organ, so frequently observed in these diseases, is, as I have stated, in most cases the result of the mechanical irritation occasioned by the lithatic state of the urine. The anomalous salts which it holds in suspension irritate the mucous surface, and often bring on a state of extreme irritation, bordering on subacute inflammation. Such being the real cause of the irritation, no effectual relief can be afforded to the patient until the digestion be restored to a healthy state. As that, again, is under the influence of the uterine disease, we, step by step, revert to the latter, as the affection that must be cured before we can expect to remedy the vesical irritation, of which it is the primary cause.

Even when the urine has been restored to a healthy state, owing to improvement in the functions of the stomach, the bladder unfortunately, in many cases, does not at once cease to be irritable. In the natural state, the urine, although an irritating fluid to other surfaces, mucous or cutaneous, is not so to the mucous membrane of its own

reservoir, the bladder, its contact with which occasions no uneasy sensation. When, however, the sensibility of the bladder has thus been anomalously raised, even the healthy urine often long remains a source of irritation, giving rise to a frequent desire to pass water, and to pains, on its excretion, in the urethra, and especially at the neck of the bladder. I have tried many medicinal substances, with a view to modify this most distressing state, but with very little immediate success. It appears to me not to yield so much to the influence of medicinal agents, as gradually to die away, from the absence of the cause that produced it—viz., the morbid state of the urine and the proximity of uterine disease. When this irritability has existed for many years, the bladder may become so permanently contracted as to be unable to contain more than a few ounces of urine, even in the absence of any morbid state. This is a very miserable condition, as the urine has to be passed every hour or two, and the probability of a cure becomes very doubtful.

The immediate effect of the cure of uterine inflammation and ulceration, as we have seen, is not unfrequently, at first, unfavorable with regard to the irritation of the bladder, which greatly increases, or even appears when previously absent. Under the impression that this may be the result of the absence of the accustomed counter-irritation, I have repeatedly, with benefit, applied an issue in the cellular tissue, just above the pubis, keeping it open for several months. The medicinal preparations which have appeared to me the most beneficial in these cases are the alkalies, alone or combined with hyoscyamus or with camphor, balsam copaiba, and other resinous substances.

Constipation often exists when the digestive functions are disordered, from inaction of the upper part of the large bowel. In this case, the feces never reaching the rectum, injections fail to procure an evacuation. Should dietetic means, such as brown bread, and fruits, when they agree, not succeed in removing the constipation, aperients must be given. I merely have recourse, however, to their assistance when they are absolutely indispensable. A few grains of compound rhubarb pill, or a pill composed of hyoscyamus and colocynth two grains, aloes one grain, or some other mild purgative, taken on the night of the second day, if the bowels have not been moved by the cold injection, will generally suffice to open them once, which is all that is required. I always regret to be obliged to have recourse habitually to aperients, as their regular employment renders it more difficult to restore the digestion to a state of integrity. They also increase the tendency to hemorrhoids and to prolapsus ani, which is often very marked in patients suffering from inflammatory disease of the uterus.

When these latter affections co-exist, they do not, generally speaking, require any particular treatment. It is, however, more than ever necessary to keep the lower bowel free from any accumulation of feces, the pressure of which, by interfering with the intestinal circulation, materially increases the rectal disease. The cold injection is of the greatest use in these cases, as a topical remedy, to the congested



and relaxed mucous membrane. When the uterine affection is finally subdued, and health returns, the prolapsus ani often entirely disappears without further treatment. This is also the case, although less frequently, with hemorrhoids.

If the pressure of the uterus on the rectum, or the want of contractility of the lower bowel, is carried so far as to completely interrupt the escape of the feces, the accumulations which take place are sometimes so considerable as to be removed only with great difficulty. The rectum, and more or less of the colon, may be filled with hardened feces which resist the action of the most powerful purgatives. The latter either merely produce pain and tormina without any result whatever, or a fluid motion which slips, as it were, down the bowel, alongside the fecal mass, without disturbing the latter, and with spasms and pains as severe as those of labor. I have met, repeatedly, with very sad cases of this description, cases in which the medical attendants, finding the bowels thus to respond to purgatives, although with great agony, never suspected the existence of the hardened accumulations. On examination per vaginam, the plan which should be adopted in uterine patients, when such a condition is suspected, the loaded state of the rectum is easily ascertained. Generally speaking, injections are as powerless in these instances as are purgatives, and the only really available plan of treatment is that of mechanically emptying the bowel. For such a purpose instruments are inefficient, even dangerous, and should generally be discarded. A teacupful of warm water must be injected, and allowed, if possible, to remain five, ten, or fifteen minutes, to soften the motion. The anus should then be gently opened and dilated, firstly with the forefinger, and then with it and the medius. The two fingers, well oiled, being then introduced into the rectum, the fecal mass can be broken up and the fragments extracted, or washed out by an injection. This process must be renewed until the bowel be quite cleared. In the course of a few hours the rectum generally fills again, either from the action of the intestine, or under the influence of a purgative. The operation must then be repeated. It may take several or many days to get rid of the hardened accumulation. Once the latter is entirely removed, the bowel generally regains its tone, partially if not entirely. It may, however, remain paralyzed, in which case the patient can generally be taught to relieve herself in the way above mentioned. The treatment above described must be very repugnant to both the patient and her medical attendant; but, as I have stated, there are cases in which none other is available. I am persuaded that, by its adoption, I have saved several lives which would have been sacrificed had medicinal means only been relied on.

When congestion extends to the liver, and bilious symptoms supervene, or when they manifest themselves independently of congestion, in connection with the disordered state of the digestive system, it may be necessary to have recourse to the administration of calomel or blue pill. The former I find the most efficacious when bilious diarrhœa

or vomiting has set in; the latter when there is merely a disordered condition of the biliary secretion. It is seldom, however, necessary or desirable to continue their use. Leeches alone generally fail to relieve the symptoms occasioned by a congested state of the liver, whatever the cause; but they may, when timely applied, prevent uterine congestion from extending to it, and thus obviate the periodical explosion of biliary attacks, if the tendency exists. It is, indeed, on the occasional application of leeches after the catamenia that I principally rely in the cases to which I have elsewhere alluded. I mean the cases in which, after the cure of uterine disease, menstruation remaining scanty or being finally suppressed, a tide of congestion gradually extends from the uterus to the abdominal circulation, giving rise to biliary symptoms when it reaches the liver.

The emaciation and defective state of the general nutrition which so frequently accompany chronic inflammatory disease of the uterus, being in a great measure the result of the disordered condition of the digestive system, can only be treated by removing the primary cause of the evil. The sympathetic reaction which the diseased uterus exercises on the stomach strikes at the root of the functions of nutrition, as it were, and the only remedy is to annihilate this morbid reaction by curing the uterine disease. Unless this be accomplished, the chyle supplied by digestion continues to be defective, and the general nutrition becomes more and more deteriorated; the uterus no doubt exercising also, directly, a depressing sympathetic action on the functions of assimilation and nutrition. Thus it is that the patient loses flesh, and becomes in the course of time thin, pale, sallow, and anemic. What satisfactorily proves that this anemic state of the economy depends principally on depraved digestion is, that if the stomach resists the action of the local disease, and retains its functional activity, the patient may remain many years a sufferer from the local disease without becoming weak and debilitated, and without losing the outward characteristics of tolerable health.

The disordered condition of the special senses, of sight, hearing, and cutaneous sensibility, which is occasionally observed in chronic inflammatory disease of the cervix uteri, does not call for any particular treatment. These states are merely symptomatic of the general morbid condition of the system, and can only be treated by curing the disease in which they originate. Their increase is thus almost invariably prevented, but even the complete restoration of the patient to health is not always followed by their disappearance.

Convulsive hysteria occurring under the influence of uterine disease is generally a very formidable complication. The convulsive attacks are often severe and frequent, occurring whenever any exacerbation takes place, and sometimes under the immediate influence of the remedial means employed to subdue the local disease which occasions the hysterical affection. The practitioner may thus be placed in a painful dilemma. If the uterine malady is not treated, the convulsions gradually become worse, and may become epileptiform, and

threaten the life of the patient. On the other hand, the examination of the patient and the cauterization of the ulceration, when such exists, in these severe cases, is often attended with a repetition of the convulsive attack.

Between these two dangers, however, we must choose the least. As the recovery of the patient, both from the uterine disease and from the convulsive affection which it occasions, depends on the removal of inflammation and on the healing of ulceration, the means absolutely necessary must be cautiously adopted, irrespective of their immediate effect; but every precaution must be taken to prevent the subsequent convulsive attack, or to mitigate its intensity. The most efficacious means that can be resorted to for this purpose are the injection of preparations of opium into the rectum, and the use of chloroform administered by inhalation, or by the stomach. Generally speaking, the convulsions cease when the uterine disease is cured, or only occur at the menstrual epoch, and that merely for a short time. Whether it be cured or not, a most efficacious remedy for the convulsive attacks produced by the approach or by the existence of menstruation, or following its cessation, is the application of leeches to the neck of the uterus, when the general state of the patient admits of it. Leeches, mustard-poultices, or blisters, applied to the sacro-dorsal region, are also often very useful.

The want of sleep, or its very disturbed and unrefreshing character, is only remedied by improvement of the local disease, and of the morbid conditions sympathetically produced. Opiates and other sedatives merely increase the mischief which they are given to allay. The return of quiet, refreshing sleep, is always a very favorable symptom. The confinement and want of exercise so often entailed on patients by the existence of uterine disease, powerfully contribute to disturb and destroy sleep. Thence it is very evident that the confinement should not be greater or continued longer than is necessary. The removal of sorrow, change of air and scene, country life, and alkaline mineral waters, will often greatly assist recovery.

*The Treatment of Inflammation of the Uterus and of the Uterine Organs generally considered with reference to its results.*

By the local and general means of treatment which I have described, inflammation, ulceration, and hypertrophy of the neck and body of the uterus may nearly always be subdued, and the patient, in the great majority of cases, is subsequently restored to health.

In most cases, all local symptoms disappear along with the disease which occasioned them. This, however, is not always the case. The pain in the back, the vesical irritation, or the inability to walk may remain, in a more or less marked degree, for a considerable period after the entire removal of the local disease; but they generally disappear in the course of time, unless the body of the uterus remain chronically inflamed and enlarged, or unless the ovaries be diseased,



or permanent morbid changes have taken place in the bladder or rectum.

The same remarks may be applied to the general symptoms, although in a more limited degree. The general health may have received so severe a shock, or the constitution may be so indifferent, that a lengthened exemption from uterine disease is necessary to allow the powers of the system to rally and throw off the morbid results which it has produced. Thus digestion and nutrition may remain long impaired, nervous and hysterical symptoms may long distress the patient; but in the course of time, in the great majority of patients, all functional and vital disturbances disappear, unless the morbid conditions enumerated persist. Generally speaking, except in bad constitutions, the health rallies as the uterine disease progresses towards the cure; and after its entire removal the patient is gradually restored to health. Even in the absence of any lingering morbid condition, the general health may be many months or even several years before it recovers. Indeed, it may never completely rally; the powers of life may be too weak, or may have been too prostrated for a complete recovery to take place; but these cases are fortunately quite the exception. Sometimes phthisis supervenes, and terminates life.

The duration of treatment necessarily varies, according to constitutional powers, the extent and intensity of the disease, the structural changes which it has produced, and to the influence exercised by menstruation over its phenomena. When the latter is unfavorable, it is always prolonged. This is also generally the case when ulceration and hypertrophy are both present; it then mostly lasts several months. The state of the patient's general health, the difficulty with which she bears treatment, and the resistance of the disease, may be such as to render it desirable that the local treatment should be repeatedly interrupted. After rest and change of air, for a few weeks or months, it is often resumed with much greater efficacy. Since I have made it a rule minutely to investigate the state of the cavity of the cervix, and never to dismiss a patient so long as there is the slightest vestige of disease remaining, I am much longer in curing my patients; but when they are once cured, I scarcely ever have any relapse of the ulcerative disease. The relapses which I formerly used continually to witness in the practice of the French surgeons, was clearly owing to the disease not being followed into the cervical canal, and thus not eradicated.

On the whole, there are few diseases that give more satisfactory results under treatment than those which I have described in this work, provided their real nature be recognized, and rational means of treatment adopted. I am continually seeing pale, weak, and helpless females completely restored to health, whose life had been a misery to them for years, who during that time had never been free from the most gloomy, the most depressing feelings, and the most painful sensations, and who had wandered in vain in search of relief,

from physician to physician, from place to place. To them the recovery of health is often a kind of resurrection. Stranded, as it were, on the shores of life, all but devoid of hope, they shake off with the disease the physical and mental incapacity which it occasioned, and once more find themselves able to resume their social duties, able to take a part in the active occupations of life.

The medical attendant, however, must have the courage to wait for these results, sometimes several years, if necessary, after the close of the surgical treatment, and he must keep up the hopes of his patient. He must not forget that not only is she suffering from confirmed chronic disease, but that this disease has deeply damaged the general health, the constitutional powers. When the disease itself is removed, the battle is only half won. The patient has still to recover damaged health, and that must be a matter of time, and of constitutional power, even under the most judicious management.

It has repeatedly been objected, since the first editions of this work were published, that the careful attention to the general health which I recommend and practise, the rest and freedom from unfavorable social conditions enforced, would alone suffice to cure the morbid conditions of the uterus and of its cervix described in the preceding pages. Indeed, it has been boldly asserted that the success which has followed the treatment I recommend, both in my practice and in that of others, is to be referred to these agencies, and not to the local treatment. To such assertions I have a ready answer. By far the greatest proportion of cases of uterine disease that it has fallen to my lot, as a consulting practitioner, to treat, have been cases in which apparently judicious general treatment had been employed for months and even years by the most experienced and eminent practitioners of the day; and that without success, or with merely temporary benefit. It was only when the local mischief was discovered and treated that the patients really and permanently recovered their health. Nothing in medical science has been more vividly exemplified in my experience than the above fact.

One of the most striking results of the removal of uterine disease is the entire subsidence of that fretful, irritable, nervous, and hysterical state of the mind which often characterizes it, especially in the higher and more cultivated classes of society. The most intellectual and strong-minded women are not exempt from this reaction of uterine disease of the nervous system. Under its influence they become irritable and capricious, without the slightest suspicion being entertained by those around them as to the cause of the change that has taken place in their mental state. They thus meet with blame instead of the pity they deserve, for their feelings are all but uncontrollable. I have, indeed, no hesitation in stating that the very frequent existence of uterine disease, modifying the temper and mental state of women, without suspicion being entertained as to the real physical cause of the change, either by friends or by medical attendants, has unfavorably influenced the opinion of moralists respecting the female

character. My experience would tend to prove that when a female, whatever her rank in society, is perfectly well, she is rarely irritable, nervous, or capricious, and that when these mental conditions are present in a very marked degree, they will be too often found referable to the unsuspected existence of chronic uterine disease.

#### INFLAMMATION OF THE UTERINE NECK IN THE VIRGIN—DURING AND AFTER PREGNANCY—AND IN ADVANCED LIFE.

The rules which I have laid down for the local and constitutional treatment of inflammation, with or without ulceration of the uterine neck, are so generally applicable to the disease, in whatever stage of female existence it may be observed, that I have but little to add that the practical knowledge of a well-informed practitioner will not supply.

With unmarried females the entire difficulty of treatment lies in the instrumental part of it. When the disease has once been reached, the treatment differs in no respect from that of the same affection in married women.

The existence of pregnancy, so far from being an obstacle to the local treatment of inflammatory and ulcerative disease of the uterine neck, is a strong reason why it should be adopted and carried out without delay, unless the patient have reached the latter period of her pregnancy. If so, as the child is viable, and it becomes rather difficult to bring the cervix fully into view, owing to the very lax state of the internal mucous surfaces, it is as well, unless the symptoms be urgent, merely to resort to astringent injections, used tepid and with care, that is, without much force, and to reserve all instrumental treatment until after the confinement. During the first six or seven months, on the contrary, it is the absolute duty of the medical attendant to treat the disease, as by curing the ulceration, or even by modifying its irritability, not only is much suffering spared to the patient, but abortion is often prevented. The local treatment must consist in astringent injections, and cauterization with the nitrate of silver, or the acid nitrate of mercury. Very often the luxuriant ulcerations of pregnancy show a great tendency to bleed after the use of the nitrate of silver. When this is the case, the acid nitrate of mercury must be preferred. Sometimes, however, the bleeding of the diseased surface is so free at first that a fluid caustic which can only be used with great care, like the acid nitrate, is really useless. In such cases the solid lunar caustic must be used for the first time or two. It may be employed safely with great freedom. I never think of using the *potassa cum calce*, as the reaction after its use, under such circumstances, would be much too powerful to be safe. Moreover, the pregnancy itself is doing gradually what deep cauterization is partly intended to effect when resorted to—melting the induration. Neither do I find leeches necessary, nor should I knowingly have recourse to them, in the more advanced stages of pregnancy. I have, however,



repeatedly applied them to patients who were one or two months pregnant without being aware of the fact, and that not only without any bad result, but with actual benefit. This has emboldened me to apply them in the early stage of pregnancy in some females in whom repeated abortions had occurred, with a view to diminish congestion, and to carry on gestation. I have done this repeatedly with decided success.

Generally speaking, when a female who has repeatedly aborted is found to be suffering from inflammatory disease of the neck of the uterus, the removal of the uterine malady is all that is required to modify the tendency. In the majority of such cases, the subsequent pregnancies are carried to the full term. It is not always so, however; the patient may continue to become pregnant and to abort, either at the same period of the pregnancy, or at irregular periods, notwithstanding the cure of all disease. It is in these cases that I have found the application of a few leeches to the cervix for one, two, or three successive months, singularly successful in preventing the abortion. I usually choose the time that menstruation would be due, were the female not pregnant. I would remark that the application of leeches to the cervix, under such circumstances, is merely carrying out in a more rational and efficient manner the practice of the old accoucheurs, who recommend in these cases the monthly abstraction of a small quantity of blood by the application of leeches externally to the ovarian regions. If this plan of treatment proves successful, it is probably because it removes morbid uterine congestion, exaggerated monthly by an irregular menstrual molimen.

When there is reason to suppose that ulcerative disease of the cervix exists after parturition or abortion, I never interfere until five or six weeks have elapsed, unless the abortion be a very early one. I then examine the patient, whether the hemorrhage has stopped or not, and cauterize at once the ulcerated surface with the nitrate of silver. Whether the blood comes from the ulceration or not, the cauterization almost invariably arrests its excretion, and the case then falls into the general category. It will be remembered that I consider the persistence of a sanguinolent discharge for more than ten or fifteen days after confinement a very suspicious circumstance, usually indicative of some cervical or uterine lesion, either the result of the labor, or antecedent to its occurrence. I may here remark, which I believe I have omitted to do before, that for some time after parturition, and during the entire period of lactation, the mucous membrane of the vagina retains a very vivid congested hue. It is then, evidently, the seat of a sympathetic physiological congestion, which must not be mistaken and treated as a morbid condition.

The only special observation that I have to make with respect to the treatment of this disease in the aged, is to recall to mind its intractability. A very minute amount of disease will often, as already stated, resist all mild means of treatment, and only give way at last, under the influence of the most powerful, the actual cautery, or *potassa fusa*.

When the disease is cured, the natural process of atrophy, which usually occurs in the uterus after the definitive cessation of menstruation, often takes place with astonishing rapidity, the congestion of the pelvic circulation, previously kept up by the disease, entirely giving way.

#### ACUTE METRITIS.

When acute inflammation of the unimpregnated uterus does not extend to the peritoneum, it is not necessary to resort to antiphlogistic treatment with the same energy as when it does, or as when the disease occurs in the puerperal state.

In young and very plethoric females, in whom the inflammatory symptoms run unusually high, the abstraction of blood from the arm may be advisable, but even with them it is seldom necessary. Generally speaking, the external application of leeches to the lower hypogastric or ovarian regions is alone required. From ten to twenty may be applied, according to the intensity of the attack; and they may be repeated in the course of twenty-four hours if the symptoms do not abate. It must be remembered, that although there is little fear of inflammation extending to the peritoneum in a young healthy female, there is great danger of its passing to the lateral ligaments, and giving rise to abscess. Thence the necessity for resorting, at an early period, to such means as are likely to arrest the progress of the disease. The efficacy of the leeches would, no doubt, be more decided were it possible to apply them directly to the neck of the uterus; but in acute metritis, the sensibility of the organ, and of the adjoining parts, is so great, that the introduction of the tube by means of which they are applied becomes all but impossible.

Light poultices, large enough to cover the lower part of the abdomen, are beneficial, and when their weight can be borne, generally afford great relief. They appear to act principally by relaxing the abdominal parietes. When the tenderness is too great for the weight of the poultice to be endured, warm anodyne fomentations may be substituted. A valuable substitute for the ordinary linseed-meal or bread poultice is the "spongiopiline tissue." It is made of a mixture of sponge and cotton, and imbibes water like a sponge. The back or outer part being covered with Indian-rubber, retains the moisture and warmth. It is thus both clean, light, and efficient, and can be often borne when the ordinary poultice is unendurable. Poultices are also frequently useful in the chronic form of uterine inflammation.

The general treatment must consist in absolute rest in bed, abstinence from all solid food, the administration of purgatives, of diaphoretic saline medicine, and of tartarized antimony in small doses. It is very seldom necessary to give this latter substance in large doses, or to administer calomel and opium, as in puerperal metro-peritonitis. Should, however, the inflammatory symptoms, instead of giving way to the means enumerated, increase in intensity, and there be evidently

danger of the extension of the disease to more important structures, these powerful agents for controlling inflammation should be at once administered.

Under the judicious use of the above means, acute metritis generally terminates by resolution in the course of from five to ten or twelve days. It may, however, notwithstanding the resort to early and active treatment, extend to the lateral ligaments, giving rise to abscess, or it may pass into the chronic stage.

#### CHRONIC METRITIS.

Chronic metritis is a most intractable disease, whether it occupy the entire uterus, or be limited, as is usual, to one particular region. It is, however, most obstinate when confined to the posterior wall of the womb, and when the result of the gradual extension of chronic inflammation and induration from the cervix to the body of the organ. When it is the immediate result of acute inflammation, or of inflammation and suppuration of the lateral ligaments, it is, generally speaking, much easier to subdue.

If chronic metritis is occasioned or kept up by ulceration, or by subacute inflammation of the neck of the uterus, the first thing to be done is to subdue the local disease by the means already pointed out. This is absolutely necessary, as it acts like a thorn in the part, keeping up irritation throughout the entire uterine system. The local depletion, and other antiphlogistic means used for this purpose, combined with the regulation of the general health, by the dietetic rules and the medicinal agents already indicated as generally applicable in chronic uterine inflammations, not unfrequently remove the disease of the body of the organ simultaneously with that of its neck. In some cases, however, in which the cervix is evidently the part primarily in fault, chronic inflammatory induration of the body of the uterus remains, after the entire removal of all morbid conditions of the cervix.

In these cases, as also in those in which chronic inflammation originates in the uterus, apart from any affection of its neck, the tenacity of the disease and the difficulty of removing it are often extreme; so much so, indeed, that as a general rule, it is impossible to form even a surmise as to the length of time that may be required to accomplish this desirable end. A few months may suffice, or it may be years, before the disease is subdued, even when active treatment is perseveringly resorted to. In some exceptional cases, indeed, the disease is never perfectly subdued, proving rebellious to all treatment, constitutional and surgical, however energetic and continuous.

The resistance of the chronic uterine disease to treatment in such cases can only be explained by constitutional conditions. Either the vitality of the general system is below par, or there is some peculiar constitutional tendency to uterine inflammation in the patient, which



neutralizes the efforts of the medical attendants. She may be a broken-down invalid, advancing in life, who has been suffering for many years from uterine disease, combined with aggravated sympathetic reactions, dyspepsia, defective nutrition, and anemia; or she may have shown from girlhood delicacy of health and uterine susceptibility. Previous to marriage she may have constantly suffered from dysmenorrhœa and leucorrhœa, and subsequently to marriage her uterine life may have been a series of uterine catastrophes, abortions, difficult labors, hemorrhages, leucorrhœa, prolapsus, and of other morbid uterine phenomena.

So true it is that such are usually the antecedents of females in whom uterine inflammation resists treatment, whether limited to the cervix, or extending to the entire uterus, that on them may be founded the prognosis of this class of diseases generally. When the constitution is originally good, and the uterine inflammation is evidently an accidental event in the patient's life; when its origin can be clearly fixed upon, and anteriorly to such origin there is a complete immunity from uterine suffering, the prognosis may generally be considered favorable; even in the most aggravated cases of local and general disturbance. When, on the contrary, the antecedents are such as above described, when in the background there is a general and uterine life of suffering, and the origin of the uterine disease is obscure, because it mingles with previous physiological uterine suffering, then the prognosis may be considered decidedly unfavorable. Under these latter circumstances all that can be done, occasionally, is to alleviate actual suffering, and to arrest the further development of the disease, local and general.

That this should be the case is consonant with the laws of general pathology. The progress of disease, under the most skilful and enlightened treatment, is always subordinate to the constitutional state of the patient. The physician can neither give a good constitution when that of the patient is originally bad, nor can he renew one that is actually worn out by disease and suffering. It is not, therefore, surprising that in confirmed uterine disease, as in other diseases, his efforts should occasionally fail, if everything is against him, original constitution, uterine morbid idiosyncrasy, and inveterate disease. Age must be also taken into consideration as an important element in forming a prognosis. The younger a female is, unless she has been a confirmed invalid from childhood, the greater the innate organic vitality, the greater the power of remedial agencies, and the greater the chance of eventual recovery.

The local means of treatment most generally applicable in chronic metritis, are, rest in the horizontal posture, the use of emollient or astringent vaginal injections, and the occasional application of leeches to the neck of the uterus, before or during, but more especially after, menstruation; according to the period at which they appear most serviceable. It is often, to a great extent, the existence of the menstrual flux that feeds and keeps up the chronic inflammation, and

nothing gives such effectual relief in the exacerbations of inflammation and pain that occur at this time, as the occasional abstraction of blood from the womb, by the direct application of a few leeches; provided the general state of the patient is such as to bear the loss. During these exacerbations, the injection of opiates into the bowel, or the use of chloroform in the various modes indicated, often affords great relief, and assists in enabling the patient to pass over the catamenial period without the occurrence of any permanent increase of the uterine disease. In extremely obstinate cases, I sometimes apply an issue just above the pubes, keeping it open for some months, and have frequently derived great benefit from this plan of treatment, for which the profession is indebted to M. Gendrin.

In addition to the general means of treatment already described, when treating of cervical inflammation, we may resort to the exhibition of mercury, of the iodide of potassium, or of the bromide of potassium. I must, however, confess that I have not obtained that benefit from the use of these medicines that might be anticipated from the assertions of other practitioners. This discrepancy between the results furnished by my practice and that of others admits of explanation; but the explanation I give, if correct, will go far to prove that the experience of those who attach so much importance to the action of these medicines in the treatment of chronic inflammation and enlargement of the uterus is not entirely to be depended upon.

Most of the patients laboring under chronic metritis whom I meet with have been suffering from uterine disease for many years; and the general health has, in consequence long been completely broken down. With such patients I do not feel authorized, as I have elsewhere stated, to give such medicines as iodine or mercury, unless the necessity be absolute and imperative. The more so, as they must necessarily be administered for a lengthened period if they are destined to act on the nutrition of a chronically inflamed organ, and mercury and iodine, when taken so as thoroughly to saturate the system, often produce of themselves a species of cachexia. Persons already reduced to a state of extreme debility and emaciation by chronic disease, are certainly not those in whom it is desirable to give medicines, as a systematic rule of treatment, which may only add to the evil.

Entertaining these views with regard to the administration of mercury, iodine, and bromine, in whatever mode or form they may be given, and seldom resorting to them until all ordinary means, both local and general, have failed, I have thus ascertained that they are seldom necessary, the chronic inflammation generally giving way without their assistance. On the other hand, in the few obstinate cases in which I willingly resort to their use, I do not find the effect they produce by any means so decided as is generally asserted. I am therefore, I consider, warranted in concluding that if they succeed oftener in the hands of other practitioners, it is because they are generally used from the first, in the early stage of treatment, in conjunction

with other means, which alone would probably suffice to remove the disease. The bromide of potassium has appeared to me almost inert, even when given in large doses. I consider these agents most useful when the inflammation is subdued, and chronic enlargement only remains.

When all ordinary therapeutic agents, including the internal administration of mercury and iodine, fail to remove the chronic inflammation and induration of the uterus, I have often established, as a counter-irritant, an issue on the neck of the uterus itself, with *potassa fusa* or *potassa cum calce*, independently of any disease of that region, and with great benefit to the patient.

The first case in which I resorted to this rather severe mode of treatment was that of a lady who had been under my care for nearly two years without any permanent benefit having been derived from the numerous means employed. There were several very painful nodosities on the posterior wall of the uterus, which was much enlarged and retroverted; the disease had existed many years. Finding that an issue applied over the pubes had done more good than anything else, it occurred to me, that if the issue were applied on the cervix uteri, which was healthy but rather hypertrophied, the counter-irritation would be much more efficacious. I long hesitated, fearing that the inflammatory reaction might extend to the inflamed uterus, and occasion acute metritis; but I was at last induced to waive all scruples, and to try the application of the issue, owing to the sufferings of my patient being very great, and to the slight hope that remained of a cure being effected by ordinary means. The issue was applied four times, at intervals of about six weeks, and with very decided benefit. The nodosities of the posterior region of the uterus much diminished in size, the enlargement of the organ greatly abated, and the patient became much freer from pain and uneasy sensations. Several years have now elapsed since the last issue was applied, and the patient continues in a greatly improved state, although still an invalid, and suffering considerably at the monthly epochs. The womb remains rather tender and enlarged posteriorly.

Since then I have often adopted this derivative plan of treatment with equal, and even greater success, and that without the occurrence of any untoward symptom. Although much more pain and much more general sympathetic disturbance is experienced than when *potassa fusa* is used to the cervix in the absence of inflammation of the body of the uterus, there does not appear to be much reason to fear too severe an amount of inflammatory reaction. We must not forget, also, that a certain amount of uterine reaction is necessary, in order that the vitality of the diseased tissues may be deeply modified. At the same time, I should never think of recommending such treatment, except in extreme cases, which have long been under treatment, and against which all other means, local and constitutional, have failed.

I must here repeat the remark made when speaking of the treat-



ment of obstinate cervical disease. The suspension of all local treatment for a few weeks or months is often attended with very satisfactory results. The interval must be devoted to energetic constitutional treatment. Every effort must be made to tonify the system, to raise the general vitality by change of air and scene, by such agencies as sea bathing, or a course of mineral waters in summer,<sup>1</sup> alkaline or sulphurous, and by acting upon the mind as well as the body. After such a suspension, local treatment is often much more successful than before, owing to improvement in the general health.

When the inflammation exists principally in the posterior wall of the uterus, and the latter is retroverted on the rectum, as is usually the case, it becomes difficult to remedy the constipation, which is nearly always a prominent symptom. The injection of cold or tepid water, so useful in other cases, often cannot be resorted to, as the dilatation of the lower bowel, raising the retroverted and inflamed womb which lies upon it, generally gives rise to severe pain. We must, therefore, inevitably have recourse to mild aperients, in as small doses as possible, choosing those that act more especially on the lower bowel. The aperient, however, should not be given oftener than is necessary to prevent a collection of hardened feces taking place above the retroverted womb, the passage of which, under such circumstances, is a source of extreme pain. In these cases, the mere fact of the patient becoming able to bear the injection is a proof that great improvement has taken place.

It is not only useless, but most pernicious to the patient, to attempt, by mechanical means, to replace the inflamed and retroverted uterus. The organ is retroverted because it is inflamed and enlarged, and the only rational treatment of the displacement is the cure of the disease which occasions it. The uterus, as we have seen, is not, like a joint, liable to dislocation, and then susceptible of being reduced by mechanical means; but an organ lightly suspended or poised in the pelvic cavity. It is therefore most irrational to attempt to restore it to its natural position, by means of a sound or a bougie, when it has fallen backwards from inflammatory hypertrophy. The retroverted organ may be twisted round by the uterine sound, if not bound down by adhesion, a hundred times, and a hundred times it will again fall, as soon as the sound is withdrawn; there being nothing to keep the organ in situ when it has been "replaced."

When inflammation of the uterus, of its neck, or of its cavities, accompanies retroversion, whatever the cause of the retroversion, it is principally the inflammatory disease, and not the retroversion, that occasions the morbid symptoms. It is the inflammatory disease, consequently, that requires to be treated. If the contrary opinion prevails now with some practitioners, it is because they are under the influence of erroneous theoretical opinions. Overlooking the real disease, they merely treat the imaginary one, and thus do more harm than good.

<sup>1</sup> See M. Willemin's *Étude des Eaux Minérales de Vichy*, in chronic uterine disease.

Not only is this serious error apparent in their writings, but I am continually seeing it illustrated in practice, in cases in which very evident inflammatory disease has thus been overlooked, and left untreated, whilst the patient has been tortured by useless attempts to replace the retroversion—the imaginary cause of her ill-health. The following case aptly illustrates this fact: Mrs. A. menstruated rather late in life, the catamenia were at first irregular, and she always suffered considerably. She married at twenty-two, and six months afterwards accompanied her husband to a tropical climate. Soon after arrival she began to suffer from whites, pain in the back and ovarian regions, and pain in congress. Her health rapidly gave way, it was supposed under the influence of the climate, and she was ordered home within a year of her arrival. On reaching England, she placed herself under an eminent general physician, and was treated as one whose health had given way from residence in a tropical climate; no suspicion of the existence of uterine disease being entertained. During the two years that she spent in England, she consulted various physicians, without any further light being thrown on her state, which only slightly improved; the local symptoms persisting, although mitigated. She then rejoined her husband abroad, but immediately became ill again. The uterine symptoms rapidly increased, great debility followed, and she was attacked on two occasions by the fever of the country. The existence of uterine inflammation was this time recognized by her attendants, but nothing was done to remedy it, and she was again sent home for medical advice and for change of climate. On her arrival in England she applied to an eminent accoucheur, who has adopted the mechanical doctrine of uterine displacement. She was then suffering from severe pain in the lumbo-dorsal, ovarian, and hypogastric region, had a muco-purulent discharge, great bearing-down, and could scarcely walk. She was pale and emaciated, suffered agonizing pain at the menstrual epochs, could not bear congress at all, from the extreme pain it occasioned, and was a victim to dyspepsia, cardialgia, cephalalgia, and insomnia. Indeed, she evidently presented all the symptoms, both general and local, of chronic inflammatory uterine disease.

After being carefully examined digitally, she was told that she was *merely suffering from displacement of the womb*, that the uterus was retroverted, and that if it were once restored to its natural position, she would be quite well. In accordance with this view of her case the womb was “replaced,” with the uterine sound, at short intervals, during six weeks, and then the permanent stem pessary was introduced and allowed to remain. The replacing of the womb, with the sound, always gave intense pain, as also did the introduction of the permanent pessary. After much suffering, however, she got accustomed to the latter, and retained it during six months. After that time it was taken away by the practitioner who had introduced it, who told her that the womb “was in its right place,” the displacement having been perma-

nently removed, that all had been done for her that medical art could do, and that she would soon be restored to health.

This took place two years before she consulted me, and during that time she continued a confirmed invalid, no better in any respect than when she returned to England, nearly three years previous. Under the impression, however, that all had been done that was possible by medical skill, she did not take any further advice. I found the general and local symptoms exactly as described above, and on examination, ascertained that the body of the uterus was very much enlarged, thoroughly retroverted, so as to lie completely on the rectum, and so exquisitely painful on pressure as scarcely to bear the contact of the finger. The cervix was also inflamed and enlarged, and its os and cavities were open and extensively ulcerated.

It is perfectly clear that, in this case, the disease from the first was uterine inflammation, and that the retroversion of the uterus was solely the result of its inflammatory enlargement, and merely a symptom of that condition. To consider the retroversion as *the disease*, as the cause of all this lady's sufferings since her marriage, was most irrational, and to treat her by mechanical attempts to "replace the womb," without doing anything to remove the inflammation that occasioned the disease, was an error both of omission and commission. Such treatment could only aggravate the inflammation, and thus, by increasing the enlargement of the uterus, increase the tendency to displacement which it was meant to remedy.

This lady rapidly improved under rational antiphlogistic treatment during the time she remained under my care, and has since got quite well. The uterus quite returned to its natural position without any special treatment directed to obtaining such a result. I had subsequently, owing to the patient's fears, repeated opportunities of ascertaining that it remained in situ. On one or two occasions retarded menstruation was followed by congestion and by temporary retroversion, which, however, subsided with the cause.

What proves retroversion of the uterus to be merely an epiphenomenon in the class of cases to which I am now alluding, those in which it is accompanied by inflammatory enlargement, is, that when the latter is thoroughly cured, all morbid symptoms disappear, without any therapeutic means having been directed to the retroversion, and that, in very many cases, the uterus gradually resumes, partly or entirely, its natural position. But, even if it does not, the circumstance is generally of little consequence. I have restored to health and the active duties of life a considerable number of females, in whom the uterus was retroverted when they left me, and is so, probably, to this day; and yet they are totally unconscious, from any symptom which they experience, that the organ is not in its normal position. Nor do I find, as has been asserted, that such displacement subsequently prevents impregnation. The impediment to impregnation, generally speaking, is the inflammatory disease that accompanies the retroversion, and not the retroversion itself.



When retroversion, in a decided form, does persist as a permanent condition, and pregnancy ensues, as already stated, it is apt to give a great deal of trouble as the pregnancy advances. The uterus enlarging in a retroverted form, cannot escape from the cavity of the pelvis, and all the symptoms of retroversion during pregnancy gradually develop themselves. Indeed, I must repeat that I firmly believe the very great majority of the cases of retroversion during pregnancy observed in practice, may be thus accounted for. From this fact may be drawn the deduction, that all women who miscarry from retroversion, or suffer from its existence during pregnancy, should be carefully examined after their recovery, with a view to ascertain the state of the uterus, and to remedy the retroversion when possible.

For further details respecting the treatment of chronic enlargement of the uterus, and of retroversion, I must refer to the chapter on Displacements.

#### INTERNAL METRITIS.

As we have seen, inflammation of the mucous membrane lining the uterine cavity is seldom met with alone, that is, limited to the uterine mucous membrane, either in an acute or chronic form. At the same time, it no doubt very often coexists with acute and chronic metritis, and sometimes with catarrhal inflammation of the cervical canal. In many of these cases the inflammation co-exists in the interior of the uterine cavity.

Inflammation, co-existing in the interior of the uterine cavity, is generally subdued by the means adopted to cure the inflammation of the uterus, of the cervix, or of the cervical canal, which accompanies it. Although, therefore, from the first, the fact of the os internum being open, and of the inflammation extending to the uterine cavity, may be recognized, it is not necessary at once to carry the local treatment beyond the cervical canal. The co-existence of this form of internal uterine inflammation, however, should be considered a sufficient motive for carrying antiphlogistic and other remedial measures, such as the application of leeches, purgatives, and rest, farther than might otherwise be deemed necessary.

Should the internal metritis not give way to these means of treatment, and persist after all subacute inflammation of the uterus, of its cervix, and of the cervical canal, have been subdued, it may be necessary to stimulate directly the uterine mucous membrane. The solid nitrate of silver can be easily used by means of an instrument similar to that which is employed to cauterize the urethra, and is a very efficacious agent. Its application is, however, exceedingly painful, and is generally followed by a copious exudation of blood, sometimes quite amounting to flooding. Indeed, the pain produced by the cauterization of the lining membrane of the uterine cavity, under any circumstances, is nearly always so great, and continues so long, and is attended with so much general disturbance of the system, that I can

scarcely understand how it can have been proposed as an ordinary therapeutic agent in amenorrhœa, to induce menstruation. The remedy is too severe and painful, in my opinion, to be adopted for this latter purpose—the more so, as the flow of blood which it occasions is not menstrual, but merely blood thrown off under the influence of local irritation. The application of a few leeches to the cervix appears a much more simple and more rational, and is practically an equally efficacious mode of treatment.

Solutions of nitrate of silver have been much used on the continent, as injections in what they term internal metritis. As I have shown elsewhere, however, continental practitioners have universally mistaken, described, and treated inflammation of the cervical canal for inflammation of the uterine cavity. What they say, therefore, of injections in internal metritis, must be considered to apply principally to their influence in disease of the cervical canal. When disease really exists in the uterine cavity, the injections would, no doubt, do much good, and, were they safe, would be preferable to the solid nitrate of silver, applied with the *porte-caustic*; but there is reason to believe that uterine injections are not safe, and I now do not resort to them. Several deaths occurred in Paris, during my residence there, from metro-peritonitis, brought on by their use. One took place in the female ward of M. Jobert, at the Hôpital St. Louis, and under my own care, as I was then his house-surgeon. The patient, a fine healthy young woman, of twenty-four, was afflicted with a large fibrous tumor of the uterus, which had much developed that organ, and had, no doubt, *opened the os internum*. M. Jobert was at that time trying the effects of the so-called uterine injections, and injected some astringent solution into the cervical canal of this young female, there being a slight muco-purulent discharge from the os. Shortly after, she was seized with rigors, fever, and severe abdominal pain, and in a few days died of peritonitis. I performed the post-mortem, and found nothing but the lesions of peritonitis, and the ovarian tumor, imbedded in a womb developed to the size which it presents in the fourth month of pregnancy. The fluid of the injection must have penetrated freely into the uterus, through the open os, and thence have passed along the Fallopian tube into the cavity of the peritoneum, thus causing fatal peritonitis.

This accident would probably have occurred much oftener than it has done in the hands of French practitioners, were it not that the natural coarctation of the os internum must have generally prevented the fluid injected from penetrating into the *uterine cavity*, where the disease is erroneously thought to exist. I have myself so constantly found that when I have carried medicated injections really into the actual cavity of the uterus, however carefully, I have thereby developed serious uterine tormina, accompanied by partial syncope and general hypogastric pain, lasting many hours, that I have now quite discarded the practice as unsafe and unnecessary. The solid nitrate of silver, introduced by means of Lallemand's urethral *porte-*

caustic, generally speaking, answers every purpose required in the very limited number of cases that require such treatment, and its use is not attended with such serious and alarming results. I am at a loss, I confess, to account for the difference, unless it be that the injections of fluid into a cavity so small that in the unimpregnated healthy condition it can only contain a few drops, leads to part passing into the Fallopian tubes. Whatever the explanation, the fact is certain, like that of the agony occasioned by a leech fixing inside the os uteri, which is equally difficult to account for.

Sometimes internal metritis is so obstinate, that even the use of the solid nitrate of silver does not appear to remove the morbid action. I have, in cases of this description, carried the acid nitrate of mercury, pure or diluted, into the uterine cavity, and thus succeeded in re-establishing healthy action, and curing the disease. In order to pass the caustic through the cervical canal, I first introduce into the cavity of the cervix a small silver tube, or piece of a common sound, through which the caustic may be carried by means of a camel-hair brush. I never have recourse to this means of treatment, however, except as a last resource. The cavity of the uterus bears surgical interference, as we have seen, less than any other uterine region; its cauterization being nearly always attended with great pain, nausea, or even sickness, hemorrhage, and considerable febrile reaction.

Fortunately it is very seldom indeed that the internal application of caustics becomes necessary. Internal metritis, existing alone, as I have stated, is not a common disease; it usually gives way to ordinary antiphlogistic means, along with the diseased states which it generally accompanies. If, however, this does not take place within a reasonable time, it is generally most obstinate, and the local means mentioned may become imperatively necessary. The success of the treatment resorted to is shown by the change that takes place in the nature of the uterine discharge. It first ceases to be sanious or sanguinolent, and assumes a purulent character; it then becomes mucous, and finally ceases.

The mucous membrane of the uterine cavity is occasionally found, after death, to be the seat of small vegetations or of soft tumors, the nature of which has been very carefully elucidated by M. Charles Robin.<sup>1</sup> These vegetations, which vary in size from that of a pin's head to that of a hazel nut, are of different kinds. Some are merely small kysts, the result of the development of the utricular mucous glands of the uterine mucous membrane. The others are of cellular-vascular, or of cellular-fibrous structure, and appear to be the result of hypertrophy of the mucous membrane; inasmuch as they contain the same vascular, cellular, and fibrous elements, only in increased and modified proportion and quantity.

A very undue importance has been attached by some French writers to the existence of these vegetations. Their frequency also has been

<sup>1</sup> Archives de Médecine, 4th series, vol. xvii.



much exaggerated, and modes of treatment have been recommended which, in my opinion, are quite inadmissible. It has been stated that uterine hemorrhage, when intractable, as also the forms of chronic internal metritis which are rebellious to treatment, are frequently the result of their presence, although the fact has not been proved either by the history of such cases in the living or by the examination of the dead. M. Aran, whose opportunities for post-mortem examinations were very great for many years, and who scrupulously used them, states that his experience, like my own, is totally adverse to this opinion. He has found these vegetations in women who had presented neither hemorrhage, nor the symptoms of chronic metritis, and has not found them in women who had. Moreover he, like myself, has constantly succeeded in curing such cases without having recourse to the surgical treatment recommended.

This treatment, which, unfortunately, has the sanction of the illustrious Récamier (*Union Médicale*, 1850), consists in the introduction of a small spoon-shaped instrument into the uterine cavity, and in scraping its walls with the view of removing the supposed vegetations. The instrument, thus employed, no doubt brings away vascular shreds and detritus, but they are probably, in most cases, merely portions of the uterine mucous membrane, forcibly scraped away. According to M. Récamier's own statements, made before the French Academy, he has known this blind and unsurgical practice to be followed by death from perforation, and from peritonitis, in several cases; and, according to M. Aran (p. 480), numerous other similar cases have occurred. Such an operation as scooping out the uterine cavity with a metallic instrument should assuredly be reserved for the very rare cases in which there is the *certainty* of the existence therein of a vascular tumor; or for exceptional cases of epitheliomatous cancer. In the latter, it is a justifiable palliative remedy which I have myself employed with advantage.

The retention of the uterine and menstrual secretions through closure, congenital or accidental, of the os or of the cervical canal, may be followed by internal metritis. In such cases, the remedy is the restoration by surgical means of the cervical passage. The internal metritis then generally dies away under mere hygienic care. If not, the treatment would be the same as in the more usual forms of the disease. As we have elsewhere seen, after the cessation of menstruation the cervical canal sometimes becomes obliterated. The uterine secretions may even then accumulate above, distend the uterus, and give rise to internal metritis, accompanied by most of the symptoms of the disease. This is seldom the case, but should it occur, the remedy again is the re-establishment of the cervical passage, as in the former case, and further treatment only if necessary.

## INFLAMMATION OF THE VULVA.

The remedial agencies required in the treatment of inflammation of the vulva are general and local. The local means consist in emollient and astringent fomentations and lotions, such as linseed tea, poppy-head or marshmallow decoctions, and solutions of acetate of lead, alum, sulphate of zinc, &c., and in the use of tepid or cold hip-baths. If the inflammatory symptoms run very high, a few leeches applied on the outer surface of the labia majora, near the groins, are of great utility. When applied to the inner surface of the labia they are apt to be followed by considerable swelling. If the mucous follicles are extensively ulcerated, a solution of nitrate of silver will be often found more efficacious than any other lotion, especially when pruritus exists. As the inflammation generally passes more or less into the vagina, the medicated lotions should likewise be injected into that canal, so as to act simultaneously on it. The patient should remain lying, and be kept on a low diet, the general treatment consisting in purgatives, salines, and cooling medicines. It is all but needless to add, that the cause that has produced the inflammatory attack should be avoided.

If it occurs merely as the extension of disease of the more internal genital organs, as soon as the inflammation has been sufficiently subdued to admit of an examination, their state should be carefully investigated, and the disease found at once treated.

The above rules for the treatment of acute vulvitis, will also be found to apply, with some slight modification, to the chronic forms of inflammation of the sebaceous and hair follicles. In the more confirmed stage of the disease, when emollients and astringents fail, solvents and stimulants, such as the iodide of potassium, or the iodide of lead, the sulphuret of potassium, applied locally in the form of ointment, or mercurial ointment, will often succeed.

Should the vulva be attacked by the special forms of cutaneous inflammation, the means of treatment usually resorted to in other parts of the body will also be found applicable. Chronic ulceration of the labia, or of the lower vaginal commissure, of a non-syphilitic character, should be treated on the same principles as the more internal forms of ulceration already described. If emollients and astringents, united with general treatment, fail, the vitality of the diseased surfaces must be modified by caustics, the nitrate of silver, the acid nitrate of mercury, potassa cum calce, or even the actual cautery.

The repulsive disease which has been described under the head of esthiomene, or lupus, requires the same treatment as when it occurs in the face. If it has evidently originated under the influence of a scrofulous or syphilitic constitutional taint, the treatment should be principally directed to the re-establishment of the general health. At the same time, the local agents enumerated as applicable to vulvitis in all its forms must be resorted to. Should both local and general means fail, an attempt may be made, if possible, to extirpate the dis-

eased tissues with the knife. This, however, is often impossible, owing to the extension of the malady to regions with which it is impossible to interfere surgically. Thus it is that, notwithstanding every effort made to restore the patient, death often closes the scene, the disease generally proving much more serious and more frequently fatal than in the face. That such should be the case will be easily understood, when we consider that the affected parts are constantly exposed to irritating discharges from the urethra, the vagina, and the anus, and to the periodical congestion connected with menstruation.

#### INFLAMMATION OF THE VULVO-VAGINAL GLAND.

Hyper-secretion, simple or purulent, of the vulvo-vaginal gland, generally ceases on the removal of the sexual or other causes of irritation which produced it, combined merely with simple antiphlogistic means, such as hip-baths and emollient and astringent injections.

When the gland itself is inflamed, swollen, and tender, in addition to these means, the application of a few leeches, along with purgatives and salines, is often very servicable, and if resorted to sufficiently early, will frequently prevent the formation of matter. When once pus has formed, whether in the duct or in the gland, it is better to make an artificial opening for its escape, than to allow it to make one for itself. In the latter case, the orifice of the opening is often very small, and soon cicatrizes, when the matter may again collect; whereas, if an artificial opening is formed, it may be made sufficiently large to afford a free escape for the pus, and be easily kept open, by repeatedly touching the edges with the solid nitrate of silver, until the inflammation of the gland have subsided, when it can be allowed to close without risk. This remark also applies to the abscesses that form in the proper tissue of the labia. It is the absence of this precaution that accounts for the constant recurrence of abscesses in this region which has been so frequently noticed by modern surgeons. The treatment of the cysts that form in the vulvo-vaginal gland, and present, in some respects, such a great similitude to these abscesses, should be conducted on the same principles. They ought to be freely opened, a portion even of their walls excised, and the orifice kept free so as to allow of the cavity of the cyst becoming obliterated by the inflammatory process that is set up. Should this process of obliteration prove dilatory, the cavity of the sac may be touched over with the solid nitrate of silver, or with a strong solution. Should the inflammation be of a very passive nature, this step may be taken from the first.

#### VAGINITIS.

Simple non-blennorrhagic vaginitis should be treated on exactly the same principles and in the same manner as vulvitis. When complicated with, and the result of the extension of vulvitis, we have merely to carry the agents used beyond the vulva into the vagina, to subdue



it along with the more external disease. When it is only a symptom of inflammatory disease of the neck or body of the uterus, and the result of its extension to the vagina, the uterine affection must be attended to at the same time that emollient and astringent injections are used; otherwise it is in vain that the vaginitis is treated. Any improvement obtained is lost as soon as the means resorted to are for a time abandoned. Thence the continued recrudescence of vaginal discharge observed in these cases when the uterine disease is not recognized and treated. In addition to general agencies, vaginal injections are principally to be depended upon in the treatment of vaginitis in all its forms. As I have been obliged to treat at length of their use in vaginitis when speaking of the treatment of inflammation of the uterine neck, I must refer the reader to that part of the work for a more detailed account of the manner in which these remedial agents should be used.

#### OVARITIS, ACUTE AND SUBACUTE.

Acute ovaritis requires the same treatment as acute metritis, the only difference being, that general blood-letting is seldom demanded, the application of leeches, generally speaking, proving sufficient. These may have to be repeated several times within the first few days of the attack, the aim of the practitioner being, if possible, to prevent suppuration. Acute ovaritis having a tendency also to pass into the chronic stage, it is well to ascertain that all inflammatory action has subsided before the patient is left to herself as cured.

In subacute ovaritis the principal reliance must be placed on the application of leeches to the ovarian region, the repeated use of blisters, and on resolute frictions with ointments containing the iodide of potassium or of lead, or with mercurial ointment. To these local means of treatment must be added such general antiphlogistic agencies as the state of the economy seems to require, or as the strength of the system appears likely to bear. I need scarcely add, that any coexisting disease of the uterus, or of the cervix, should be removed as speedily as possible, and that strenuous efforts must be made to improve the general health.

#### INFLAMMATION AND ABSCESS OF THE UTERINE APPENDAGES.

The treatment of inflammation of the uterine appendages, or lateral ligaments, in the first or acute stage, is the same as that of acute ovaritis and metritis. As, however, the danger of suppuration, if the inflammation be not speedily subdued, is much greater, it is generally desirable to have recourse, with even greater promptitude and energy, to antiphlogistic measures, and more especially to local blood-letting.

When the existence of inflammation in the lateral ligaments is recognized from the first, and it is energetically treated, the formation of pus is often prevented, or the pus formed is absorbed. Should this

not be the case, and the pus, in its efforts to find a vent by one of the natural apertures, become perceptible from the vagina, it has long ago been proposed to make an artificial opening, so as to allow of its escape. Paulus Ægineta describes this operation at some length; and in our own days M. Récamier has revived it, and strenuously advocates its adoption.

Were the phlegmonous tumor absolutely to point in the vagina, and the fluctuation which it produces to become so evident as to show that it is in immediate contact with the vaginal parietes, I should not hesitate to adopt this course; but this is so rarely the case, that it is very seldom indeed that the operation, thus restricted, becomes applicable. To make an incision in the vagina, in the direction of obscure fluctuation, or tumefaction only, is, in my opinion, highly dangerous and reprehensible.

When the inflammation is not subdued by active antiphlogistic treatment, and the pus has found its way to the exterior by the vagina, rectum, abdominal parietes, or bladder, all that can be done is to meet the symptoms as they present themselves. Nature must be assisted in her efforts gradually to restore the parts compromised by inflammation to a healthy state, and we must endeavor, by every feasible hygienic and medicinal means, to support the strength of the patient during the tedious process of reparation which has inevitably to take place. In this stage of the disease, the rules laid down for the general treatment of chronic inflammatory disease of the uterus and its neck equally find their application.

The periodical exacerbations which occur at the monthly periods during the first few months, often require mild antiphlogistic treatment by leeches, purgatives, and salines. Subsequently, rest in bed for a day or two, and warm poultices applied to the abdomen, alone suffice. The diarrhoea occasioned by the opening of the abscess into the rectum soon subsides, generally speaking, under the influence of starch or opium injections. It is then often succeeded by constipation, which must be remedied by very mild aperients, or by cold or tepid enemata.

In that more severe form of the disease which is observed during the puerperal state, the pelvic mischief, as we have seen, is often so great as to react most unfavorably on the general health, and to reduce the patient to the greatest state of marasmus. When this is the case, powerful stimulants, such as wine and quinine, and as generous a dietary as the patient can bear, may become absolutely necessary to keep her alive. It is more especially in these severe cases that abdominal perforation takes place. As soon as fluctuation is distinctly felt underneath the walls of the abdomen, and the skin reddens, it is best to make an artificial opening, in order to allow the pus to escape. This opening may be made with the lancet, or with *potassa fusa*, but I prefer the former mode of operating—it is more prompt, and equally safe, once adhesions have evidently formed. Otherwise, the *potassa fusa* is preferable.

Desperate as the state of these unfortunate patients often appears, they constantly rally and recover under judicious treatment, although the process of recovery may be a very tedious and lengthened one. In such cases there is locally very little to be done. The part the medical attendant has to perform is principally by medicines and diet, to keep up the strength of the patient. Nature is doing her utmost to limit the disease, by adhesions and the formation of pyogenic membranes, to get rid of purulent accumulations, and to absorb morbid deposits. This she generally accomplishes, if the patient can be kept alive long enough, as no organ absolutely necessary for life is compromised. We may, however, except one class of disease—those which originate in a deposit of tubercular matter in the ovary. These cases generally prove fatal, although it is quite possible even for a female thus suffering to recover, if the tubercular diathesis can be arrested, and the further deposit of tubercular matter be thus effectually stopped.



## PART II.

### THE CONNECTION BETWEEN UTERINE INFLAMMATION AND OTHER MORBID UTERINE CONDITIONS, FUNC- TIONAL AND STRUCTURAL.

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IN the first part of this work I have pointed out, as I progressed, the great influence that inflammation of the uterus and of its annexed organs exercises in developing disordered functional conditions of the uterine system, that is, morbid menstrual states, sterility, abortion, &c., and in producing the various displacements of the uterus. Inflammation may also be complicated with polypi and fibrous tumors of the uterus, and greatly modify their symptoms. In the neck of the womb, syphilitical ulceration presents peculiar characters, which require elucidation, in order that it may be distinguished from inflammatory sores. It is in the neck of the womb that cancer likewise generally first makes its appearance; and although the morbid changes produced by inflammation are in reality easily distinguished from those resulting from cancer, they have been, hitherto, generally confounded with the latter, with which they are erroneously supposed to have great affinity. I now intend carefully to examine those various morbid conditions, functional and structural, in their connection with inflammation, to point out in what manner it influences their origin and development, and to establish their diagnosis on full and accurate data.

#### MORBID MENSTRUAL STATES.

The history of morbid menstrual states, Dysmenorrhœa, Menorrhagia, and Amenorrhœa, is so inextricably mixed up with that of uterine inflammation, that the influence exerted by the latter cannot be duly appreciated unless they be studied generally. I shall therefore give a brief but complete account of these conditions in all their forms, and of the treatment they require.

## CHAPTER XIII.

DYSMENORRHŒA—AMENORRHŒA—MENORRHAGIA—UTERINE  
HEMORRHAGE GENERALLY—LEUCORRHŒA—STERILITY—  
ABORTION.

## DYSMENORRHŒA.

By the term *dysmenorrhœa* is implied painful and difficult menstruation. Most females experience slight uterine and ovarian pains, accompanied by some external tenderness in the hypogastric region, with or without aching pain in the back, for the first few hours previous to and after the advent of menstruation. When these feelings are not usually experienced they will often manifest themselves, accidentally, as the result of over-fatigue or mental emotion, or without any appreciable cause. To such conditions, however, the appellation of dysmenorrhœa cannot be applied; it must be reserved for those cases in which a very considerable amount of pain is experienced, either invariably or by exception.

Dysmenorrhœa may exist—First, Permanently as a constitutional condition, or accidentally and temporarily in connection with general morbid states. Secondly. It may be the result of the presence of uterine or ovarian disease, or of a contracted state of the cervical canal.

*Constitutional Dysmenorrhœa.*—This form of dysmenorrhœa is often observed in females whose uterus appears naturally predisposed to congestion, and with whom menstruation is very abundant, and is preceded and followed by a white leucorrhœal discharge. It is met with also when this is not the case. It may be limited to the first day or two, or extend throughout the entire period. In such women the dysmenorrhœa is evidently functional, the result of the distension produced by over-congestion, or of a peculiar susceptibility of the uterine innervation. The pain is by no means the same in intensity at every period, but varies according to hygienic and moral circumstances. Under the influence of fatigue, excitement, or anxiety, and frequently without any appreciable cause, the dysmenorrhœa will become much more intense than usual, and last a much longer time. In some instances I have known it to come on only at every second period. This form of dysmenorrhœa generally commences with the menstrual function, and persists with varying intensity throughout its entire duration. It may, however, be modified or removed by marriage, by parturition, or by the mere influence of time. Although verging on disease, constitutional dysmenorrhœa can scarcely be considered a mor-

bid condition. It may be said to be characterized by its commencing with the menstrual function, by the entire and complete absence of all uterine symptoms in the interval of the monthly period, and by the general similarity of the menstrual epochs. Although one period may be, and often is, more painful than another, on comparing menstruation during any two given periods of several months, the amount of pain suffered, and the mode of manifestation of the function, are found to be pretty nearly the same. If a permanent increase of pain occurs, it is a suspicious circumstance, as indicating the possible or even probable existence of some inflammatory condition of the cervix uteri, to which these females, as we have seen, are peculiarly liable, or of some morbid ovarian condition.

*Accidental Dysmenorrhœa.*—Dysmenorrhœa may occur *accidentally* in a female who usually menstruates without pain, as the result of over-excitement or fatigue, from exposure to cold, or as the result of some temporary disturbance in the general health. When this is the case, the dysmenorrhœa is probably occasioned by an accidentally disturbed or congested state of the uterine circulation, or by a temporary exaggeration of the nervous susceptibility of the uterine organs. It is characterized by its merely temporary existence, and by the fact of its passing away with the cause that produced it.

*Inflammatory Dysmenorrhœa.*—Non-constitutional dysmenorrhœa, however, according to my experience, is much more frequently the result of inflammatory disease of the uterine organs, and principally of the cervix, than is generally supposed, of functional derangement, or of nervous susceptibility. When menstruation, naturally easy, becomes permanently painful, or when naturally but slightly painful, it becomes extremely so, we are warranted in looking for local disease. Such a change *does not take place without a cause*, and that cause is, generally speaking, inflammation of the cervix or of the body of the uterus, dysmenorrhœa being one of the most prominent and most ordinary symptoms of such disease.

This fact applies to the virgin as well as to the married female, and is of great importance, as affording a key to those extreme cases of dysmenorrhœa, accompanied sometimes by spinal irritation and hysterical epileptiform convulsions, which appear to resist every form of treatment, and are alike distressing to the patient, her friends, and her medical attendant. Since I have ascertained that such is the case, I have found that the great majority of the instances of *extreme* dysmenorrhœa in the unmarried female which have come under my notice, have been cases of this description. However intractable before, they have yielded as soon as proper antiphlogistic treatment has been adopted.

The history of two patients, formerly under my care, strongly illustrates these facts, and their importance. In the younger female, a young unmarried lady, dysmenorrhœa from the first was the prominent symptom. She had always suffered *slightly* from painful menstruation, but not to such an extent as to inconvenience her. About



two years before I saw her, the dysmenorrhœa became much more intense, and at last so agonizing, as to produce hysterical epileptiform convulsions, which ended in partial paralysis. In the other lady, who was thirty years of age, and the mother of a family, the uterine inflammation commenced six years before, with a laborious confinement. The most prominent symptom with her, also, was dysmenorrhœa, which increased rapidly, so as at last to bring on intense convulsions at every monthly period, and thus to occasion partial paralysis of the left side, as in the former case. Both these patients were considered to be merely suffering from hysteria, spinal irritation, and functional derangement of the uterus, and had been treated, for several years, solely in accordance with these views. In reality, they were laboring under severe inflammatory ulceration of the uterine neck.

In these cases the dysmenorrhœa is a mere symptom of the inflammatory condition of the uterine organs, and is only to be removed by their restoration to a healthier state. Generally speaking, it is the neck of the uterus that it is found to be the seat of the disease that occasions the dysmenorrhœa. When the body of the uterus is affected, the dysmenorrhœa is usually even more intense. Subacute inflammation of the ovaries may also give rise to dysmenorrhœa, but I cannot agree with Dr. Tilt that it is a frequent cause. This difference of opinion is connected with that which exists between me and my esteemed friend respecting the frequency of subacute inflammation of the ovaries. It will be remembered that I consider the symptoms which Dr. Tilt supposes to indicate the existence of such inflammation—pain and tenderness in the ovarian regions—to be merely symptomatic of disease of the uterus or of its neck, in nineteen out of twenty in which they are observed.

We may connect with inflammatory dysmenorrhœa that form which has been described under the head of pseudo-membranous, and which is characterized by the expulsion of shreds and casts of plastic lymph from the cavity of the uterus. I believe that the formation of these membranes coincides almost invariably with the present or past existence of uterine inflammation. In other words, I have found, in the great majority of cases of this description that have come under my observation, that there has been at first inflammatory disease, although the removal of inflammation has not always freed the patient from the liability to the formation of the pseudo-membranous casts. It would appear as if habit alone sufficed in some instances to perpetuate their formation, or at least their occasional occurrence, even after the removal of inflammation, if once they have occurred under its influence. M. Pouchet states, that in all females, even in virgins, a delicate decidual membrane or cast is formed in the cavity of the uterus at every menstruation, and is thrown out about the tenth day. If so the deciduous pseudo-membranes of dysmenorrhœa may be considered as merely an exaggeration of a natural condition, but occurring, generally speaking, under the influence of inflammatory disease. The expulsion of these pseudo-membranous shreds is always preceded

by an aggravation of the uterine suffering, and not unfrequently by tormina similar to labor-pains, which are evidently occasioned by the efforts of the uterus to get rid of the casts formed in its cavity. That the difficulty of expulsion is partly the cause of the uterine tormina, is proved by the fact that I have repeatedly relieved them by dilating the cervical canal in the interval of menstruation in females who continued to expel pseudo-membranes, and to suffer, after the removal of all uterine disease.

Inflammatory dysmenorrhœa may be said to be characterized by the development of pain as a permanent menstrual condition, in a female previously free from it, or by the increase of pain experienced constitutionally, but in a less marked degree. In other words, as pain during menstruation may exist constitutionally without local lesions, its value as a symptom of disease can only be ascertained by comparing the past with the present state of the patient. Generally speaking, other uterine and general symptoms are present *during the interval* of menstruation, which tend to assist the diagnosis. This, however, is not always the case. I recently attended a young unmarried lady, only twenty-one, who had suffered ever since the menses appeared, at seventeen, from severe dysmenorrhœa. The pain was indeed so severe, that for the first five days she was always obliged to keep her bed, writhing in agony, and for eight days out of every lunar month she was confined to her room. In the interval she had not an uterine symptom, and beyond a certain amount of general languor and anemia, which the mere physical pain she had to go through at short intervals sufficiently explained, the general health did not appear to have much suffered. Previous to my seeing her, she had been under constant medical treatment, and the total inefficacy of the remedial means usually resorted to in such cases had been over again tested. Under such circumstances, after treating her without any result for subacute ovaritis, I considered myself warranted in making an examination of the uterine organs, being impressed with the idea that dysmenorrhœa of so severe a character and so rebellious to general treatment, must be occasioned by some local morbid condition, and probably by congenital contraction. To my surprise, I found the cervix the seat of decided inflammatory ulceration. I may also add, that the dysmenorrhœa has quite subsided under the influence of appropriate treatment for the local disease. This case, however, is an exceptional one, even to me, owing to the entire absence of all uterine symptoms in the interval of menstruation and shows the difficulties which occasionally surround the diagnosis of these forms of uterine disease.

It must be borne in mind that although menstruation, as we have seen (p. 94), generally increases the pains occasioned by inflammatory disease of the uterus, such is not always the case. In some instances, although a considerable amount of actual disease may exist, the advent of the menstrual flux gives positive relief, and the patient may be easier during its continuance than at any other period in the month. In

such cases we have only to guide us the uterine and general symptoms existing in the interval of menstruation, and the difficulty of the diagnosis is consequently much increased.

*Physical Dysmenorrhœa.*—Dysmenorrhœa may also depend, as demonstrated by Dr. Mackintosh, of Edinburgh, on a physical imperfection of the uterine neck, on contraction of the os internum, or of the canal which constitutes the cavity of the cervix. This contraction may be either congenital, or the result of inflammation. The peculiar character of the dysmenorrhœa, when caused by congenital contraction, is the absence of *any* uterine symptom during the interval of menstruation, and intense agonizing pain for a few hours before the flow of blood appears; the pain then disappearing, or lasting throughout the period. These pains commence with menstruation in early youth. If they are occasioned by inflammation, the symptoms are the same at the time of menstruation, but there is not usually the same immunity from uterine pain in the interval of the catamenia.

The cause of the pain experienced under these circumstances is evident. The cavity of the non-pregnant healthy uterus not containing more than about ten or eleven drops of fluid, as soon as the catamenial secretion commences from the lining membrane of the uterine cavity, unless the blood find a free exit through the os internum and the cavity of the cervix, it distends the uterus, and gives rise to pain. The obstruction may merely be at the os internum, spasmodically contracted; in which case, as soon as it has been overcome, the blood escapes freely, and pain disappears. But if the os internum is permanently contracted, or the contraction exists in the cervical canal, it may continue throughout the catamenial period.

Contraction of the upper part of the cervical canal, or of the os internum, is not, as I have stated, an unfrequent complication of inflammation of the cervix, from the swelling and hypertrophy of the substance of the organ which it occasions. This remark, however, does not apply to the *inflamed region* of the cervical canal, which is uniformly dilated by the existence of inflammation.

I do not, however, think that Dr. Simpson's criterion of the existence of contraction of the os internum is entirely to be depended upon. Dr. Simpson believes—if I am right in my interpretation of his views—that unless the uterine sound pass without effort into the uterine cavity, there is contraction of the os internum. Now, the examination of hundreds of females with the sound has led me to a different conclusion. There evidently exists, as I have repeatedly stated, at the os internum a muscular sphincter formed by a band of the circular muscular fibres of the cervix, and destined to close the uterus during the latter stages of pregnancy. Generally speaking, this sphincter, in the natural state, is sufficiently closed to prevent the uterine sound passing into the cavity of the uterus, unless a considerable amount of pressure be exercised. In nearly all the females I examine, in the interval of menstruation, the sound passes easily along the cervical



cavity, but stops at the os internum, and that when there is no reason whatever to suppose the existence of a morbid coarctation.

It appears to me, on the contrary, that a free communication between the cervical and uterine cavities, allowing the *easy* introduction of the uterine sound, is generally an anomalous condition, indicating the existence of disease; unless observed soon after menstruation, when the os internum relaxes, or soon after parturition, when it has not yet had time to recover its normally contracted state. The principal morbid conditions in which I have observed a free communication between the two cavities, are inflammation and uterine tumors. If the inflammation at the os uteri, and in the lower part of the cervical cavity, ascends as far as the os internum, as we have seen, it relaxes the muscular contractility of that region. The os internum is always open when the inflammation passes into the uterine cavity, and implicates its lining membrane. The same effect is also produced by the development of the uterine cavity, through the formation of tumors in the substance of the uterus, or from any other cause; the os internum gradually opening as the uterus enlarges, probably by the same mechanism as in pregnancy. This is so generally the case, that the fact of the uterine sound penetrating easily through the os internum into an enlarged uterine cavity, may be considered a valuable symptom of the existence of such tumors, to add to those with which we are already acquainted.

Extreme dysmenorrhœa from congenital contraction of the cervical canal and os internum, independent of inflammation, is, I believe, of *rare occurrence*. This is a fortunate circumstance, as it is most embarrassing to treat, requiring an amount of interference with the uterine organs which it is very painful to have to propose, especially in the case of an unmarried female. Dilatation of the contracted cervical canal is, however, sometimes the only means we have of remedying suffering at the catamenial period, so extreme as to render life all but a burden, and as to react deeply on the general health.

A very strongly marked illustration of this fact occurred to me some time ago, in dispensary practice. A young female, aged twenty-two, was sent to me by a medical practitioner in town for dysmenorrhœa. It appeared that she had suffered in the most excruciating manner at every menstrual period, since the menses first appeared, at the age of eighteen. The pain always continued without intermission throughout the three days and nights that the catamenia lasted, and was of so severe a character that she never closed her eyes, and was confined to bed for the whole time. She had generally been under medical treatment, and the usual remedies had been repeatedly tried—antispasmodics, anodynes, sedatives, &c. Latterly she had been taking very large doses of opium without the slightest benefit. On inquiry, I found that after the menstruation ceased, the pain gradually subsided, and that during the menstrual interval she was perfectly well, and was then *altogether* free from any uterine symptom. In appearance she was rather stout and healthy-looking. The hymen was

intact, but dilatable, and I was thus enabled carefully to examine the neck of the uterus, which I found perfectly natural in size, color, texture, and density, and free from any tenderness. The cavity of the cervix, however, was evidently very narrow, not even admitting a very small sized bougie. Thinking this might be the cause of the dysmenorrhœa, I at once decided on dilating it. This I effected to a considerable extent in the course of the three weeks which ensued before the next monthly period, by means of small sponge tents. I had not, however, dilated the os internum sufficiently to admit of the sound penetrating into the cavity of the uterus, and was consequently rather surprised to hear from the patient, after a week's absence, that not only had the catamenia been more abundant than usual, but that she had been entirely free from pain. The dilatation was continued irregularly, and as the next period was equally free from pain, I ceased all treatment, although the os internum was still undilated; at least, it was only sufficiently open to admit the small extremity of the wax bougie.

The dysmenorrhœa which accompanies inflammation of the cervix is evidently increased in some cases by the actual narrowing of the cervical canal, which the inflammation occasions, for it may persist in a mitigated form after the inflammatory disease has subsided, and be readily removed by dilatation. The persistence of dysmenorrhœa from this cause, after the removal of uterine inflammation, is not, however, of itself sufficient to necessitate, or even to warrant, dilatation of the cervical canal being resorted to, except in some special cases, until a few months have been allowed to elapse. After the removal of inflammatory disease of the uterus and of its cervix, a resolute action is set up by nature, which will often soften and relax the still swollen and indurated tissues, and thus open the cervical canal, and render mechanical dilatation unnecessary. It is therefore well to give the patient the benefit of this chance of recovery without further surgical treatment.

Whatever may be the cause of dysmenorrhœa, the mode in which the menstrual secretion takes place is modified by its existence. Instead of a flow of bright blood, regular and continuous, generally increasing by exercise and diminishing by rest, we have a dark, interrupted, and clotted discharge. After severe uterine pains, which may last many hours, and are accompanied by tenderness, and swelling in the ovarian regions, and pain in the back and down the thighs, more or less dark, clotted blood is thrown out. Its expulsion is generally followed by relief, and by a freer flow for a while, when it again diminishes, and the same ordeal again takes place. Sometimes the interruption will be complete for one, two, or three days, the pains subsiding with the menstrual flux, and returning when it again makes its appearance. The venous condition of the menstrual secretion shows plainly that, either from inflammation, congestion, or some other cause, the uterine circulation is defective, the blood stagnating

in the vessels of the uterus remaining in its cavity, and distending it after it has been secreted.

*Treatment.*—The attacks of constitutional dysmenorrhœa may be palliated, but can seldom be removed, by medical treatment. A great amount of subsequent uterine disease would, however, be spared to those young females who unfortunately suffer from it, were mothers more generally aware that its existence constitutes throughout life a strong predisposition to uterine inflammation, and that they cannot take too great care of such of their daughters as labor under it. For such young females the discipline of public schools may be said to be nearly always too severe, and often to lay the foundation for much future physical and mental misery. That this must be the case, will be easily understood when we reflect that the domestic treatment of this form of dysmenorrhœa consists principally in *rest* and *warmth*. Females who suffer habitually from dysmenorrhœa, whatever their age, should remain quietly at home, taking care to preserve themselves from atmospheric vicissitudes during the first day or two of menstruation, which is the period during which the pain is mostly felt. In public schools it is very seldom that such requirements are or perhaps can be attended to. A warm hip-bath will often be found useful. If the pains are very decided, it is best even to confine the sufferer to bed, and to apply warm linseed or spongio-piline poultices to the lower abdominal region, as we have seen, a valuable and simple mode of soothing pain.

In mere constitutional dysmenorrhœa, these simple means nearly always suffice to render the pain very bearable. If they do not produce relief, that fact alone constitutes a suspicious circumstance, and should induce the medical attendant to scrutinize narrowly the state of his patient, lest there should be some morbid or physical cause in action.

In severe dysmenorrhœa, connected with uterine disease, the only *efficacious* treatment is that directed to the cause of the disease which occasions the dysmenorrhœa. As time is required, however, to effect this, we are often called upon, even in these cases, to treat the dysmenorrhœa as a symptom; and, warmth and rest failing, recourse must be had to medicinal agents. By far the most efficacious remedy, as elsewhere stated, is the injection of laudanum, or any other preparation of opium, into the bowel. From fifteen to thirty minims of laudanum, mixed with a little warm water, should be injected into the rectum, and will generally exercise, if retained, as much influence in soothing the uterine pain as would double the quantity taken by the mouth. Moreover, the nausea and headache which opiates occasion are much less likely to be produced when they are thus administered. If the first opiate injection is not retained, a second, given half an hour later, will generally be retained, the irritability of the rectum having been modified by the first. I have also found chloroform of great value in these cases. It may be inhaled, or administered by the mouth in doses of from twenty to forty minims, mixed with mucilage,



the yolk of an egg, or with camphor, which favors its suspension in water. I have given it by injection, but with less success, as it appears, generally speaking, to irritate the rectal mucous membrane, and is consequently not retained. When, however, it is retained, the sedative effect is nearly always effectually produced. Although chloroform may thus often be resorted to with great benefit in dysmenorrhœa, I do not find that as much reliance can be placed on it as on opiates.

There are various other medicinal agents, principally antispasmodics and narcotics, which may be administered with benefit in dysmenorrhœa. We may mention more particularly the various others and especially sulphuric ether, hyoseyamus, belladonna, musk, valerian, and camphor. It must not, however, be forgotten that these remedies are mere temporary palliatives; that dysmenorrhœa, when constant and not constitutional, all but invariably depends upon some physical cause, generally speaking uterine or ovarian inflammation. It is this cause which we must find out, and remove, during the interval of menstruation.

It is the fact of dysmenorrhœa being so frequently caused by inflammatory disease that explains the success which often attends blood-letting, both general and local, and which has induced so many authors to recommend it, although unaware of the pathological state which it relieves. General bloodletting acts by revulsion; whilst local blood-letting directly relieves the congested and embarrassed abdominal circulation. I seldom, if ever, resort to general bleeding in dysmenorrhœa, because the relief which it gives is obtained at too great a sacrifice of the strength of the patient, and, moreover, cannot be depended upon. A few leeches applied to the groin, or, better still, to the neck of the uterus, when possible, if the discharge is scanty, or temporarily arrested, is much more likely to mitigate the pain, and with less loss to the economy. Purgatives, which are frequently useful, act in the same way as leeches, by depleting the abdominal circulation. Some authors—amongst others Dr. Gooch—have considered dysmenorrhœa to be frequently connected with rheumatism, and have recommended colchicum, guaiacum, and other medicines usually given in rheumatic affections. That the uterus may be the seat of such an affection is undeniable; but I am persuaded that its frequency has been greatly exaggerated, as has likewise that of irritable uterus. Indeed, these two morbid conditions may be considered to a great extent mere theoretical creations, destined to account for pathological conditions, the real nature and meaning of which have, until recently, been a mystery to the profession.

It will be seen, by what precedes, that dysmenorrhœa is by no means so simple a disease, or so easy to treat, as has been generally supposed; involving, as it often does, the question, whether or not local disease requiring local treatment may not exist as the real cause of the morbid state. If it resists all general treatment, it is probably the result of such disease, and the health and happiness of the patient

are seriously endangered. Of course the medical practitioner has a solemn duty to perform to her, before which all scruples must be made to succumb. I, however, here repeat, what I have so often said before, especially with reference to unmarried females, that nothing can warrant manual or surgical investigation and treatment, but months, or even years, of unsuccessful treatment, and the conscientious conviction on the part of the medical attendant, that unless they be resorted to, the case must be abandoned as hopeless. I would also again urge, that a consultation should always be first held with another practitioner when the patient is unmarried, to decide the point, whether the examination of the uterine organs be warranted and necessary.

## AMENORRHŒA.

We understand by the term amenorrhœa, the absence, when physiologically due, of the sanguineous discharge by which menstruation is *externally* manifested. The menstrual function consisting, as we have seen, not merely of the periodical secretion of blood from the interior of the uterine cavity, but also of the maturation and elimination of ova from the ovary, it is necessary to make the above distinction. Ova may, by exception, be matured and evolved from the ovary in the human female, as well as in the lower animals, without any sanguineous discharge taking place, as is evidenced by the repeatedly recorded fact of the conception of young females who have never menstruated, and by the pregnancies which occur in women who are nursing, without menstruation having returned. Thus, the external excretion of blood can no longer, in our present state of knowledge, be considered as comprising the entire function, although, as the rule, its manifestation is an evidence of the existence of those all-important ovarian phenomena with which it is generally connected.

Amenorrhœa may be studied under two principal forms: in the first, which we will call "constitutional amenorrhœa," menstruation has never taken place; in the second, which may be termed "accidental amenorrhœa," it has manifested itself, but has been suddenly or gradually suppressed.

*Constitutional Amenorrhœa.*—In order to appreciate this, the first form of amenorrhœa, we must recall to mind some of the principal facts connected with the physiology of menstruation noticed in an early chapter. Thus, we must recollect, that the first appearance of this function follows no strict rule, oscillating, in health, between the ages of eleven and nineteen or twenty, an interval of nine or ten years; and that the average age of fourteen or fifteen is obtained by including the exceptionally extreme cases. We must also bear in mind that, apart from constitutional and family peculiarities, the acceleration or delay of menstruation appears to be more the result of favorable or unfavorable hygienic conditions than of climate, as was formerly taught and believed.

Such being the physiological conditions of menstruation, it is evident that its non-appearance after the average age of fourteen or fifteen is not to be considered a morbid state, so long as the delay is unaccompanied by any symptom of disease or ill-health. Thus we occasionally met with young females, non-menstruated, of the age of seventeen or eighteen, or even older, whose frame is well developed and healthy, and who complain of no ailment beyond an occasional headache or backache, and sometimes not even of that. With them, menstruation is merely late in its manifestation: they are not suffering from amenorrhœa.

In a considerable proportion, however, of the young females who reach the age of eighteen or more without having menstruated, the delay is either attended with great discomfort and distress, apart from any physical deficiency; or is connected with defective general and sexual development; or is occasioned by some local or general morbid condition; or is prevented by some physical impediment. Each of these states may be said to constitute a distinct form of amenorrhœa.

In those who belong to the first category, we find a well-formed frame, properly developed breasts, as also the other external signs of puberty; but the patient suffers from constant headache and flushing of the face, severe pains in the back and loins, extending to the lower part of the abdomen and down the thighs, and often from a leucorrhœal discharge. It is evident that the changes that precede and accompany menstruation, both in the internal and external organs of generation, have taken place, but that the function has a local difficulty in establishing itself. Thence an irregular state of circulation, determination of blood to the head and face, congestion of the uterus, vagina and ovaries, with consequent pain in the uterine regions, and a leucorrhœal discharge. This state is not unfrequently connected with a plethoric condition of the system, and may last from a few months to several years. The advent of the menstrual hemorrhage generally relieves the patient at once, although she may still continue to suffer at times, as above described, if menstruation fails to establish itself regularly.

The second division comprises non-menstruated females, who, although they have attained, or even passed, the ordinary age of puberty, do not generally present that development of the mammæ and other external organs of generation, by which this period of life is usually characterized. They generally remain thin, angular, and flat-chested, and retain all the characteristics of girlhood, mental as well as bodily. It would appear as if in these cases the ovaries remained dormant, and as if the general stimulation which their progressive maturation imparts to the economy were not supplied. When the ovaries exist, but are merely physiologically dormant, the delay is only temporary, no doubt, in the very great majority of cases, and sooner or later menstruation shows itself. One or both ovaries, however, or the ovaries and uterus, or the uterus alone, may be congenitally absent. When this is the case, the menstrual function is of course



absent, and the amenorrhœa is permanent. There are many cases on record of all these conditions.

Generally speaking, in these latter forms of amenorrhœa the absence of the uterine organs may be ascertained by examination. Such, however, is not always the case, especially with reference to the ovaries, the existence or non-existence of which may remain a matter of doubt. I recollect being consulted many years ago, by the parents of a young lady, aged twenty-two, who had never menstruated, with reference to her marriage. She was well-formed and developed, the *mammæ*, *vulva*, *vagina*, and *uterus* were small, but natural, and she had all the peculiar affections and tendencies of her sex. There had never been any menstrual effort, and the general health was tolerably good. My opinion was that marriage could not take place with a view to progeny, under such circumstances, but that the tie might be formed with the idea of marital companionship. She married and has remained unmenstruated and sterile, but in tolerable health and happy. She is now thirty. Are the ovaries absent in this case? A post-mortem examination alone could decide the question.

We have seen that menstruation is physiologically retarded by bad living and unfavorable hygienic conditions; whereas its advent is accelerated by good living and favorable hygienic conditions. From this fact alone, we might conclude that all diseases that debilitate the economy would have a tendency to retard the menstrual flux; and such is really the case. Phthisis, scrofula, chlorosis, fevers, indeed all diseases that weaken, produce this effect. None, however, more frequently occasion amenorrhœa than chlorosis, a disease of the blood, in which the solid constituents of the vital fluid are diminished, and the fluid or serous parts increased. The delay or suppression of the menses under the influence of this malady is so prominent a feature in its history, that many writers have very erroneously connected it with the uterus, and have described it as a uterine disease. In reality, the state of the menses is a mere symptom of the anemia and debility occasioned by the morbid state of the blood. It is only in a few exceptional cases that I have found chlorosis connected with actual uterine disease.

Lastly, the menstrual secretion may have taken place, but the excretion may never have occurred, owing to congenital or accidental closure of the genital passages. The *os uteri*, the *vagina*, and the *hymen* may be all closed together, or they may be each closed separately. If the closure exists at the *os uteri*, the menstrual fluid accumulates in the cavity of the uterus, and gradually develops it, so that the enlarged organ rises out of the pelvis, and appears above the pubis, simulating pregnancy. If it is the lower part of the *vagina* or the *hymen* that is imperforate, the menstrual fluid first accumulates in the *vagina*, which it distends to an extreme degree before it enlarges the uterine cavity. If the fluid collection reaches the *hymen*, it generally pushes it forward, and forms a tumor, which appears between the *labia*. This distension of the internal uterine organs is generally attended with great suffering,

both local and general, and is marked by periodical exacerbations, corresponding to the monthly periods.

*Accidental Amenorrhœa.*—The second class of cases comprises those in which menstruation has existed, but has been suddenly or gradually suppressed.

The sudden suppression of menstruation is generally the result of exposure of the body, and especially of the feet, to cold or to wet; of a mental shock, from fear, grief, pain, or anxiety, &c.; or of a sudden attack of disease. It not unfrequently occurs, for a time, as the result of a sea-voyage, or of change of climate, without giving rise to much distress, and without requiring medical treatment, the return taking place spontaneously. The sudden suppression of the menses, under the influence of the other causes mentioned, is often followed by the development of inflammation in the uterus, ovaries, or lateral ligaments. Even when suddenly suppressed, however, the suppression may be unattended with any unfavorable symptom, beyond slight pain in the back and hypogastrium, flushing and headache. Amenorrhœa, thus suddenly induced, seldom extends over more than one, two, or three periods, under proper management, although the suspension may be considerably lengthened, and is sometimes indefinite.

A gradual suppression of menstruation is sometimes observed in those females in whom the function has set in late and with difficulty, without there being any evident cause, general or local. It would appear as if, with them, the ovarian and sexual vitality were anomalously low; and after making one or more efforts, at irregular periods, to establish itself, menstruation ceases, not to return, except under the influence of treatment. When this occurs, the health is scarcely ever good, the constitution generally remaining delicate and weak.

In such cases, however, we are warranted in suspecting ovarian or uterine disease. Generally speaking, in the absence of the chlorotic or tubercular cachexia, the gradual suppression of the menses is connected with such disease. The development of the various tumors to which the ovaries are liable, frequently causes amenorrhœa; and the chronic inflammatory affections which are so often observed in the neck and body of the uterus may have the same result. Menstruation first becomes irregular, being delayed days, weeks, or months, and then ceases completely. I have often been consulted for amenorrhœa by females who were laboring under these forms of disease, and in whom it had evidently come on subsequently to the uterine affection.

When menstruation does not return, the uterus, and especially its cervix, even in the absence of positive disease, appear sometimes to be the seat of a kind of permanent congestive irritation, which ultimately may bring on hypertrophy and induration of the latter region. I have seen the cervix become thus enlarged, under my eyes, as it were, in the course of four or five years, although there was never any really tangible disease during that time. In one instance, that of a married woman, now twenty-eight, the menses, which from the first had been irregular, stopped immediately after marriage at twenty-

three. Soon afterwards she began to suffer from uterine symptoms, and when she consulted me, I found the cervix inflamed and ulcerated, but not hypertrophied. The disease was soon subdued, but the menses have only returned once or twice. The uterus has appeared to remain in a state of semi-congestion, and the cervix has gradually enlarged. This female remains delicate, although in very tolerable health, free from pain, and not suffering under any other morbid state.

Suppressed menstruation, either sudden or gradual, is not unfrequently followed, even when uterine inflammation is not developed, by serious general symptoms, obstinate vomiting, severe hysteria, and sometimes by the establishment in the economy of a supplementary hemorrhage, to which the name of "vicarious menstruation" has been given. The mucous membrane of the nasal fossæ, of the lungs, stomach, and bowels, are the most ordinary seat of this hemorrhage, which takes place in some instances with the regularity of normal menstruation, and in others at irregular periods. All the other mucous membranes, as also the skin itself in various regions, have been the seat of vicarious menstruation. It has not unfrequently been observed from the surface of wounds or sores. Such being the case, it is evident that hemorrhage occurring from any of these sources in a young female in whom the menses are suppressed, has not that importance which it would have under other circumstances. The hemorrhage may be, and probably is, merely an effort of nature to establish a supplementary issue for the menstrual secretion which has not taken place.

*Treatment.*—The rules which should guide the practitioner in the treatment of amenorrhœa must be drawn from an attentive consideration of the causes by which it is occasioned, and must vary as they vary. In a general point of view, however, the indications are, 1st, to give tone to the economy, if tone be deficient, and to remove general or local disease, if such disease be present; 2dly, to favor and promote, within reasonable and judicious limits, the menstrual function. We will now briefly see how these indications are best carried out in the various forms of amenorrhœa above described.

When the advent of the menstrual flux is retarded in well-developed young females, who evidently suffer, both generally and locally, from the delay, a little judicious management will often determine its appearance. The state of the health should first be carefully scrutinized, and any general or functional derangement remedied by proper treatment. If the patient is weak and delicate, the various preparations of iron, with a generous dietary, are often of great use. If, on the contrary, she is plethoric, and subject to headache and flushing of the face, a light diet, gentle exercise, and alterative or saline medicines, are indicated. A young female suffering in this way is better at home, under the eye of a devoted and attentive mother, should she be fortunate enough to possess such a parent, than in a public school, where the rigid discipline usually enforced renders it difficult to pay that attention to her state which it requires. Under the influence of these general means, the menstrual function usually manifests itself, and be-



comes regularized in the course of a few months. Should they prove inefficient, slight periodical stimulation of the uterine system should be resorted to. The plan I most frequently adopt is, the application of large mustard poultices to the breasts, and to the inner and upper parts of the thighs, alternately, night and morning, during five or six days, every four weeks. The mustard poultices should be allowed to remain on until the skin reddens and begins to feel painful, but not long enough to blister it, that would prevent their being replaced the following day. The feet may also be put in hot water night and morning, for a few minutes, and if there is any pain in the hypogastric or ovarian regions, large warm linseed poultices, sprinkled over with laudanum, may not only afford relief, but also promote the menstrual excretion. When the symptoms of local congestion are very marked, the application to the vulva of a few leeches every month, or about the fifth day of the local treatment, may be of great assistance. The commencement of this local treatment should be made to coincide with the menstrual nixus, when it manifests itself periodically. When it does not, a certain date should be taken, and adhered to at the interval stated—that is, every twenty-eight days. In such cases the medicines known as emmenagogues, which exercise a special influence over the uterus, are seldom, in my opinion, admissible, the object being to *gently* promote the natural function, and not to violently stimulate, and probably irritate, the uterine organs.

In amenorrhœa connected with deficient uterine and bodily development, the local treatment should be conducted on the same principles, only it generally requires to be carried out more perseveringly and for a greater length of time. In addition to the means mentioned, I have also derived great benefit from electricity, the electric current being carried through the pelvis from the hypogastric to the sacrolumbar region, for an hour night and morning, during the week that local means are resorted to. In these cases it is evident that the non-development of the body is often in a great measure the *result* of the dormant condition of the uterine organs, inasmuch as I have repeatedly succeeded in rousing them to action by the local treatment above detailed, when the most judicious and persevering general treatment had failed. In these cases I have invariably seen the bodily structures subsequently develop themselves with great rapidity. At the same time the knowledge of this fact must not for a moment prevent our employing every possible means of invigorating the general health, of vitalizing the economy, and of promoting the regular play of the various functions. For this purpose recourse should be had to the mineral and vegetable tonics, and especially to ferruginous preparations, to which should be added a generous diet, moderate exercise in walking or riding, cold bathing or sponging, early hours for retiring and rising, and, if possible, a residence in the country.

When amenorrhœa can be traced to a debilitating disease, such as chlorosis, phthisis, scrofula, &c., the best mode of proceeding is the treatment of the disease to which it is referable. Thus, in chlorosis,

the menstrual flux gradually diminishes, and may finally cease altogether under the influence of the progressive deterioration of the blood, without there being any uterine disease or any other uterine symptom than the scantiness and final disappearance of the secretion. As under appropriate general treatment the blood becomes healthy, in the immense majority of cases menstruation returns, or again becomes gradually more and more normal, without any local treatment being necessary. The same may be said of scrofulous and other forms of constitutional debility. In pulmonary phthisis, the falling off and final disappearance of menstruation is a symptom of much more serious import, as it is generally connected with the more advanced stages of the disease, and with an amount of tubercular deposit, and of consequent marasmus, through the defective nutrition, which renders the chance of a recovery very problematical.

Amenorrhœa from physical obstacles can only be remedied by surgical means. If the hymen is imperforate, or the lips of the vulva are adherent, and the menses have collected behind, a crucial incision in the centre of the bulging hymen, or vulvar protuberance, is all that is required. Care, however, should be taken, when the menstrual fluid has been evacuated, that the divided surfaces do not unite and cicatrize. This is to be prevented by the use of small sponge or cotton tents for a few days, or by the application of the nitrate of silver to the edges of the incisions—a more painful but equally efficacious process. When the vagina is partially or wholly absent, or closed, either congenitally or by adhesion from accidental causes, the case is a much more serious one, and more difficult to remedy. If there is merely adhesion of the walls of the vagina this adhesion can generally be removed by the dilatation of the vagina, coupled with the gradual and careful division of the adherent surfaces. When the vagina is partially or entirely absent, the symptoms produced by the retention and accumulation of the menses in the uterus may be sufficiently serious to render it imperative to attempt to form an artificial passage, by surgical means, to the distended uterus. In such cases the difficulty and risk of the operation depend on the distance that separates the vaginal cul-de-sac or the imperforate vulva from the uterus, the operator having to make his way between the rectum and the bladder. Considerable assistance in diagnosis is derived from a careful rectal examination. It is of great importance to find a vent for these uterine accumulations of menstrual fluid, as, in addition to the suffering endured, there is positive danger to life. Cases are on record in which the distension of the uterus extended to the Fallopian tubes, and in which death occurred from the peritonitis occasioned by their rupture.

Occlusion of the os uteri, as a congenital occurrence is rare; but since I first recommended the use of potassa cum calce as a last resource in obstinate inflammatory disease of the cervical canal, I have seen several cases in which its use had been followed by all but complete occlusion, and by partial retention of the menses or at least their difficult excretion. This was evidently owing to the want of due

caution at the time of application and during the period of healing afterwards. The tendency of the tissues thus treated to contract by being very great, it should be counteracted, if necessary, by the occasional use of wax bougies, until the process of repair have been fully accomplished. The possibility of this accident occurring through want of caution in the operator, does not in the least invalidate the utility of the remedy as an exceptional and ultimate one. I have generally, but not always, found this form of occlusion easy to remove by progressive dilatation. Should occlusion of the os uteri exist congenitally, when it is recognized it is easily remedied by a slight incision in the region of the os, and by subsequent dilatation.

When menstruation is accidentally arrested or prevented, by exposure to cold and wet, by illness, or by any other of the causes enumerated, the amenorrhœa is seldom of long duration. The condition in which it originated having ceased to obtain, the function generally rights itself; the only treatment usually required being that which is most calculated to restore the general health of the patient. In some cases it may also be necessary to resort to the local means already detailed, when menstruation appears to have a difficulty in re-establishing itself.

The catamenial function appears more especially liable to be arrested, from accidental temporary influences in those females who present the low degree of sexual vitality to which allusion has been before made, and with whom menstruation appears late, and with difficulty. In such constitutions, indeed, it sometimes stops for many months, or even permanently, if no treatment be resorted to, without any apparent cause. Under the influence of decided general and local treatment, the menses will often return for a time, but flag and cease as soon as the treatment is suspended. If there is no positive disease of the uterus or ovaries, the emmenagogues, such as ergot of rye, savine, &c., may be cautiously tried. I have known also the married state, especially if followed by conception, produce a complete change in the functional activity of the uterine system, and menstruation become regular and natural. It is in these cases that the application of the nitrate of silver to the cavity of the uterus, or the scarification of its mucous surfaces, has been proposed. I must confess, however, that I do not think we are warranted in thus interfering with so delicate and sensitive a region of the uterus for such a purpose. In the unmarried female the application of leeches to the vulva, and in the married to the neck of the uterus, answers every purpose, without being open to the same objection.

The development of inflammatory disease in the neck or body of the uterus, or in the ovaries, and of cystic and scrofulous tumors in the ovaries, is one of the most frequent causes of amenorrhœa in those in whom the function has once been fairly established, and especially of partial amenorrhœa. When such lesions exist, they generally give rise to other symptoms which an attentive and well-informed observer may easily recognize. This remark, however, applies more to the



uterus than to the ovaries, for important morbid changes are not unfrequently found after death in the latter organs, which during life have given little other evidence of their existence than the modification or arrest of the catamenial functions.

In all these cases, amenorrhœa is merely a symptom of the ovarian or uterine disease. The latter is the condition to be treated, the only indication the amenorrhœa itself supplies being the advisability of having recourse to such local means as are calculated to promote menstruation, whenever nature appears to be making the least effort to establish the menstrual flux.

In vicarious menstruation, our first effort ought to be directed to the restoration of the integrity of the uterine organs, if it be impaired. We should then, by all the means enumerated, attempt to divert the molimen hemorrhagicum of menstruation from its abnormal to its normal seat. The most important of these means is the abstraction of blood from the vulva or cervix uteri, which should be resorted to every month, a day or two before the vicarious menstruation is expected, and may be repeated after it has begun, should the strength of the patient admit of such a step. By this treatment the menstrual nîsus may generally be diverted into its natural channel; whereas, any attempt to stop the morbid hemorrhage, by means applied directly to the organ from which it takes place, might be productive of mischief to the system at large.

#### MENORRHAGIA.

Menorrhagia may be defined profuse, prolonged, and too frequent menstruation, and uterine hemorrhage generally, in non-pregnant females, when not occasioned by the existence of uterine tumors, or by malignant disease.

From this definition it will be perceived that the forms under which menorrhagia may manifest itself are varied. Thus, it includes menstruation normal as to duration and periodicity, but hemorrhagic in quantity; menstruation normal as to periodicity and the amount of blood lost during a given time, but hemorrhagic from its being prolonged beyond the physiological duration; and menstruation normal as to quantity and duration, but too frequent in its return. Again, all these modes of hemorrhagic manifestation may be combined, and menstruation may be too profuse, too prolonged, and too frequent; or the hemorrhage may be continuous, with irregular or periodical exacerbations denoting the menstrual nîsus. In a word, a marked increase in the quantity of blood usually lost during the menstrual flux by the individual in question constitutes menorrhagia. It must, however, be borne in mind, that, as we have already seen, there is no *general standard* by which the menstrual flux can be measured, and by which the normal state can be separated from the abnormal. What is normal in one woman is hemorrhagic in another, and *vice versâ*. The

only standard for each individual female is her own condition, when indisputably in health.

Menorrhagia is generally considered to be the result of an active or passive state of congestion of the uterus, existing independently of local disease, and connected with or occasioned by general conditions of the economy. This, the opinion of both ancient and modern pathologists, is founded on ignorance of the facts enunciated in the preceding pages. In reality, the quantity of blood lost during menstruation is seldom increased so as to constitute hemorrhage, and the menstrual periods are seldom morbidly approximated, *for a continuance* (apart from tumors, polypi, and cancer), unless there exist some chronic inflammatory disease of the cervix or of the body of the uterus, or unless menstruation be finally disappearing. Idiopathic menorrhagia, except at the change of life, is as rare as hemorrhage from the lung under the influence of mere congestion, apart from any organic disease, tubercular or other. In the uterus, as in the lung, there is nearly always some organic lesion which produces the congestion that precedes hemorrhage. This assertion is not the result of theory, but of scrupulous observation, and must become equally evident to all practitioners who will accurately investigate the state of the uterine organs of patients so affected. Congestion of the uterus exists, it is true, in confirmed menorrhagia, but it is all but invariably, with the exceptions above made, the result of uterine inflammation, and assumes an active or passive character, according to the natural constitution of the patient, and to the amount of reaction produced by the disease and by the loss of blood on the system at large. If the uterine inflammation is of an active nature, and has not had time sympathetically to debilitate the patient, the hemorrhage is considered active or sthenic. If, on the contrary, the local disease has long existed, and has produced great anemia, and been attended with great hemorrhage, the hemorrhage is said to be asthenic.

*Accidental Menorrhagia.*—The above remarks, however, apply only to *confirmed* menorrhagia, and not to those cases in which menorrhagia appears in a casual and evanescent form, under the influence of some accidental and temporary cause, such as mental emotion or violent exertion. Under such influences the menstrual flux is not unfrequently increased in quantity, prolonged in duration, or morbidly approximated, in the absence of local disease. This is more especially observed in those females who are habitually menstruated profusely, and with whom menstruation presents the extreme physiological duration. These casual hemorrhagic manifestations, however, very rarely become permanent, and in the absence of uterine disease cease without special treatment; the function, as it were, soon righting itself.

*Inflammatory Menorrhagia.*—Menorrhagia originating in chronic inflammation of the cervix or body of the uterus occasionally persists after the removal of the morbid condition which at first occasioned it; sometimes assuming the bi-monthly form. When this is the case,

its persistence is generally the result of a torpid, languid state of the uterine circulation, giving rise to obstinate congestion; a not unfrequent sequela, as I have elsewhere stated, of long-neglected uterine disease. This congested condition of the uterine circulation may or may not be connected with chronic enlargement or hypertrophy of the body of the uterus. I have, however, met with such enlargement in most of the cases of menorrhagia which have obstinately persisted after the removal of local inflammatory disease. In these cases, the uterine hypertrophy did not appear to be occasioned by actual existing inflammation of the body of the uterus, but to be traceable to a previously diseased state of the cervix or uterus, which had prevented the latter organ returning to its normal size after parturition. Indeed, I think I may state, as the result of observation, that the *actual existence* of chronic inflammation in the tissue of the body of the uterus generally diminishes the menstrual flux, and retards its appearance, whilst inflammation of the cervix renders it more profuse and more frequent than usual. Inflammation of the mucous membrane lining the uterine cavity, on the contrary, is often a cause of hemorrhage.

A congested state of the portal circulation, connected with hypertrophy and passive congestion of the liver, or with other abdominal lesions, occasionally, as we have seen, gives rise to obstinate uterine hemorrhage, especially in cases in which the tone and contractile powers of that organ have been simultaneously weakened by chronic inflammation.

*Menorrhagia from Ovaritis.*—Subacute inflammation of the ovaries may no doubt sympathetically react on the uterus, and produce menorrhagia. Notwithstanding, however, the intimate physiological connection between the ovaries and the function of menstruation, I have not often been able to trace, clinically speaking, menorrhagia to such disease, when unaccompanied by uterine lesions. At the same time, it is quite possible that the irritable state of the ovaries, which inflammatory disease of the uterus so very frequently induces, may react on the menstrual function, and contribute to exaggerate and pervert it. In these cases, however, the uterine lesion is generally, according to my experience, the primary and principal cause of the menorrhagia. On its removal, the ovarian irritation mostly disappears along with the menorrhagia.

*Menorrhagia at the dawn and close of Menstruation.*—Menorrhagia is occasionally met with at the dawn and close of menstruation, from mere uterine congestion, apart from any local inflammatory disease.

Thus the first manifestation of the menses may be characterized by a severe attack of hemorrhage, the subsequent periods being physiological; or the menses may continue to appear hemorrhagically at irregular intervals for several months. This latter type of menorrhagia, however, is much less frequently met with than the first. When, also, the menses, about to cease definitely, become physiologically irregular, profuse menstruation, amounting to flooding, is not unusual



as a result of mere congestion. Thus the menses will disappear for two or more months, and then return with excessive abundance. It is very seldom, however, even at this period of life, that hemorrhagic menstrual fluxes occur frequently, and assume a continued character, in the absence of tumors or malignant disease, unless there be inflammatory disease of the cervix. In nearly all the instances of very obstinate hemorrhage at the change of life which I meet with, I find, on examination, that the congestion and hemorrhage are kept up by inflammatory and ulcerative disease. Indeed, some of the very worst instances of protracted and severe hemorrhage that I have ever seen, have been cases of this description; and what satisfactorily proves that the inflammatory affection is the cause of the continued hemorrhage is, that when it is cured the hemorrhage generally ceases. This is not, however, invariably the case. I have occasionally met with females at the critical period of life, in whom hemorrhage obstinately persisted after the removal of the inflammatory and ulcerative disease of the cervix, which had probably in the first instance given rise to it. In several of these cases, however, time or dilatation of the cervix has subsequently proved that the hemorrhage did not proceed from a sound uterus, but was connected with the presence of a polypus, or of a fibrous tumor, so small and obscurely situated as not to have been recognized at first.

*Menorrhagia during Pregnancy.*—The periodical hemorrhages which occasionally occur during pregnancy are considered by some writers to be of a menstrual character. Without denying the possibility of a true menstrual flux taking place from the cervical canal during pregnancy, I would mention that in nearly all the cases of this form of hemorrhage—not merely temporary, and not proceeding from separation of the ovum—that have come under my observation, I have discovered inflammatory ulceration of the cervix. This fact certainly offers the most natural explanation, at least in the majority of instances, of the presumed menstruation of pregnant women. On examining these patients, I have generally found blood escaping from the ulcerated uterine neck, the ulcerations presenting the peculiarly turgid and luxuriant appearance which I have already described as characteristic of such lesions during pregnancy. When a pregnant female suffering from ulceration of the cervix is instrumentally examined, the ulcerated surface bleeds freely on the slightest touch. Women in whom abortion or premature confinement is brought on by such disease are very frequently found, on inquiry, to have experienced repeated hemorrhagic fluxes during the pregnancy, which are often mistaken for menstrual periods.

*Menorrhagia after Parturition.*—The continued and obstinate hemorrhage which is often observed after parturition, both before and after the return of menstruation, is nearly always complicated with and occasioned by inflammatory ulceration of the neck of the uterus, with or without disease of the body of the uterus. This form of menorrhagia may be protracted for months after the labor, until the patient

be reduced to the last stage of anemia, if the real cause is not discovered and efficiently treated. Its existence ought always to lead the medical attendant to suspect the presence of uterine mischief.

In the various forms of menorrhagia occurring in the non-pregnant female, and accompanied by ulcerative lesions, does the blood escape from the lining membrane of the uterine cavity, as in ordinary menstruation, or from the ulcerated surface? I believe that both these surfaces are often simultaneously the sources of the hemorrhage, although sometimes it may proceed from one only. I have frequently seen the blood oozing from the diseased surface under all the circumstances mentioned, and have often checked it instantaneously, by freely cauterizing with the solid nitrate of silver the *entire* ulcerated surface, both internally and externally to the os uteri.

*Treatment.*—The views and facts which I have above developed are of extreme practical importance. Not only do they render unnecessary, in the immense majority of cases, the hairdrawn distinctions of pathologists with reference to the constitutional state of the patients suffering from menorrhagia, but they also greatly simplify treatment. The hemorrhage being in reality generally the result of local disease, the latter is, in most cases, the real element to be attacked and subdued. Instead, therefore, of an intricate and complex system of therapeutics, founded on a host of indications, the practitioner has, generally speaking, merely to *bring to light and to treat* the disease which causes the mischief. By so doing, he removes the morbid condition which keeps up the hemorrhagic state, and menstruation spontaneously returns to a natural condition.

In those forms of menorrhagia in which the absence of any local disease is evident, or at least to be presumed, at the beginning and termination of the menstrual function, for instance, or when the hemorrhage occurs in an accidental manner from some easily assignable cause, mental or bodily—very little medicinal treatment, generally speaking, is required. If the patient is kept at rest in a horizontal posture, and the cause, if such exists, be removed, the hemorrhage will generally subside of itself, without leaving any trace on the general health beyond temporary debility, which quiet and a moderately nourishing dietary soon remove. The hemorrhages which occasionally take place at the dawn and close of menstruation especially, seldom require, in the absence of disease, more than constitutional management and time. In the one case, the function has to establish itself regularly; in the other, the economy has to become accustomed to its absence.

This is not, however, always the case; the hemorrhage may, even under these circumstances, be so severe and so prolonged, that it would be imprudent to trust to the unassisted efforts of nature. When such is the case, the indications are, to moderate the activity of the circulation by means of sedatives, such as opium, hyoscyamus, digitalis, hydrocyanic acid, Indian hemp, and other medicinal agents similar in their action; to modify the plasticity of the blood by the

administration of vegetable and mineral acids; and to exercise a revulsive action on the intestinal canal by means of saline purgatives. The application of cold to the lower abdominal region, and the injection of cold astringent lotions into the vagina, may also be resorted to, should these means fail. It is as well, however, to wait, unless the hemorrhage be excessive, until the normal duration of the menstrual flux in the patient have passed, lest the impression of cold should suddenly arrest the excretion of blood, whilst the physiological flux towards the uterus is still in force, as extreme congestion, and even inflammation, might ensue. This appears to me a desirable precaution, and one which I usually adopt, although the direct impression of cold on the uterine organs during menstruation does not appear to be in reality as dangerous as it is usually considered.

In these the more simple forms of menorrhagia it is seldom necessary to resort to those medicinal agents which have a direct influence upon the uterus, such as ergot of rye and savine. It must not, however, be forgotten that they are very valuable anti-menorrhagic remedies, and often succeed when all other medicinal means fail to arrest the hemorrhage. As a last resource, we can resort to plugging, not the vagina, but the os and cervical canal; but this is a means of treatment which may be said to be scarcely ever necessary in mere accidental menorrhagia, and which may be kept in reserve for the more formidable forms of hemorrhage, of the treatment of which we have yet to speak.

Should the antecedents of the patient, carefully scrutinized, reveal the existence of any decided uterine symptoms, or lead to the impression that uterine disease may exist, as soon as the hemorrhage has stopped or has been temporarily arrested by the means above mentioned, the state of the uterus and of its cervix ought to be investigated—firstly, by the touch, and secondly, by the speculum, should the finger detect disease, or a suspicious condition of the uterine neck and of its cavity. In those cases in which the hemorrhage is continuous, or all but continuous, it is not necessary to wait for its entire subsidence to examine the patient. When the exacerbation which corresponds to the menstrual epoch in the patient has passed, and the hemorrhage has abated, the state of the uterine organs should be ascertained without delay. The medical practitioner must overcome the natural dislike to interfere surgically with a female still losing blood, and introduce as large a speculum as the case admits of. With small pieces of sponge and the speculum forceps the vagina is gradually cleared of clots and blood, and the os uteri at last clearly brought into view and its condition ascertained.

When inflammation, and more especially inflammatory ulceration of the neck of the uterus, is discovered, and the absence of cancerous lesions, or of fibrous growths, has been ascertained, the practitioner may consider that, in nineteen cases out of twenty, he has found the key to the menorrhagic state, and that the most efficacious and prompt means of treating it is to treat the disease he has discovered. From that moment he may look upon all medicinal anti-hemorrhagic agents



as mere adjuvants—useful, no doubt—but of very secondary importance compared with the treatment of the local disease. Very often the hemorrhage stops as soon as the irritability of the inflamed surface is modified, and long before the disease is cured.

The menorrhagia, however, may persist with more or less intensity, notwithstanding the gradual improvement of the local disease. It is with such patients more especially that great advantage may be derived from the administration of ergot of rye in substance or infusion, of savine in powder, of gallic acid, and of the other medicinal agents mentioned. I generally begin with scruple doses of the ergot or savine two or three times a day, gradually increasing the dose if required.

In those cases in which, as we have seen, the hemorrhage persists after the entire removal of local disease, owing to enlargement of the uterus, to the presence of a small, unrecognized polypus or uterine tumor in the cavity of the uterus and its neck, or from the mere hemorrhagic habit, I have for many years resorted, with encouraging success, to plugging *the os uteri itself*, instead of the vagina. It occurred to me that the usual plan of filling up and distending the vagina by pieces of sponge or a handkerchief, was a clumsy, painful, and inefficient mode of opposing mechanical resistance to the exit of blood from the undeveloped uterus, when its orifice could be so easily brought into sight. Acting on this idea, I have, in many instances, brought the cervix uteri into view, and passed inside the os two or three small pieces of cotton, tied to a piece of thread, which I wedge in firmly, covering the whole cervix with two or three larger pieces left in close contact with it on the withdrawal of the instrument. In nearly all the cases in which I have resorted to this plan, I have easily arrested the hemorrhage. Indeed, this modification of the ordinary practice appears to me so simple and so consonant with common sense, that I cannot but think it will be often adopted in severe cases. In the ordinary operation of plugging the vagina, that canal has to be distended by a large mass of sponge or linen, soaked with clotted blood, which often interferes with the functions of the bladder and rectum, is invariably a source of great discomfort to the patient, and is not always efficient. By the plan I describe, the end proposed is much more effectually compassed, with scarcely any annoyance to the patient beyond that which the use of the speculum occasions.

Owing to the natural contractility of the cervical canal, and the pressure of fluids from behind, if the cotton is not well pushed in, it is soon forced out. The plug may be left without renewal twenty-four or even thirty-six hours; but in the latter case it is generally expelled spontaneously. A small piece of sponge may be used, and is more likely to remain *in situ*, owing to its expansion; but as it must necessarily be very small, it is more likely to be permeated by the blood. If sponge is used, great care should be taken to extract the piece passed into the os, to which a small piece of thread should always be tied, as the os uteri might not be able to expel it alone, owing to its mode of expansion.

Plugging the os uteri in the way described, is by far the most effectual way of arresting the hemorrhage which precedes and accompanies abortions, when, as sometimes occurs, it resists the usual treatment, and becomes alarming. The following case will illustrate this mode of treatment, and its marvellous efficacy. A healthy lady, thirty-two years of age, came up from the country to consult me. She had been married twelve years, and had five living children, and subsequently four miscarriages. Each miscarriage had been attended with gradually increasing hemorrhage. On the last occasion she nearly lost her life, and was greatly alarmed at the idea of again becoming pregnant. She presented uterine symptoms which led me to discover the existence of extensive ulcerative disease of the cervix uteri; no doubt connected with one of her pregnancies, and the cause of the miscarriages. I cured the disease, and sent her home. A few months afterwards she became pregnant, and in her alarm again came up to town to be near me, although I rather dissuaded her from the step, which I did not consider necessary. At about the termination of the third month of pregnancy, I was sent for one night with the intimation that flooding had set in. I went immediately, and on my arrival found the patient pale, all but pulseless, and lying in a large pool of blood. The hemorrhage had merely commenced at half-past twelve, it was only two, and yet her state was alarming; the hemorrhage was continuing profusely, and the loss had already been very considerable. I at once placed the patient on her back to facilitate manipulation, introduced a large conical speculum into the vagina, and with the speculum forceps and large pieces of moistened sponge rapidly cleared the speculum, which was full of clots and fluid blood up to the brim. This accomplished, I got the os uteri into view, found it rather open; from its orifice a stream of blood was flowing as rapidly as from an open vein. I at once pushed in several pieces of cotton, tied to threads, holding one down with the sound while the next was being introduced, to prevent it being washed away, and then packed firmly the upper third of the speculum with cotton, around and over the cervix. Lastly, I slowly removed the speculum, forcibly supporting the cotton packing inside with the forceps, to prevent its being displaced. I had the mass of blood in which she was lying removed. In the course of about twenty minutes, the color began to return to the face, and the pulse began to be more perceptible, and in a few hours she was nearly herself again, although very weak. There was not subsequently the slightest hemorrhage: it was permanently checked. Twenty-four hours after I removed the plug and did not reapply it. No fresh loss of blood was experienced, and the next day, after a few uterine pains, a diseased ovum was expelled. This lady afterwards rallied rapidly in a few days. After the last previous abortion she was ill for months.

In the class of cases of which we are now treating, I have occasionally found that a few leeches applied to the cervix uteri after menstruation have arrested the hemorrhage.

I need scarcely add, that any disease of the abdominal viscera that

appears to favor the hemorrhage should be treated, and that the debility occasioned by menorrhagia must be met, during the intervals of the attacks, by as nourishing a diet as the patient will bear, and by those tonics which are suited to her state. It must, however, be borne in mind, that when the hemorrhage is accompanied or occasioned by inflammatory uterine lesions, the stomach is generally sympathetically affected, and unable to digest much food, so that a free dietary may be positively injurious, and increase the mischief.

I have not spoken of the hemorrhage that is observed in fibrous tumors and polypi of the uterus, and in cancer, because it is so much a symptom of these diseases, that it can only be properly treated of in connection with them.

## LEUCORRŒA.

The term leucorrhœa was formerly applied indiscriminately to all vaginal discharges of a non-sanguinolent nature, and was considered a disease *per se*. These discharges may be the result of very varied morbid conditions, it is therefore evident that leucorrhœa, thus defined, includes a very wide pathological range, and is in reality a mere symptom. In the course of this work the conditions of circulation and disease which give rise to vaginal discharges have been minutely described. It would, therefore, be useless to again enter into them at length, and I will now merely recall in a few words the principal facts connected with their history.

A vaginal non-sanguinolent discharge may consist of natural mucus, of white mucus, of transparent glutinous ropy mucus, and of pus, or of the four combined.

The mucous follicles of the vulva and vagina, and probably those of the external surface of the uterine neck when in a perfectly physiological state, free from all congestion or morbid influence, secrete in more or less abundance a slightly glutinous transparent acid fluid, of the same description as that which is secreted by mucous follicles in other parts of the body. This, the natural mucous secretion of the female sexual organs, is best observed for a day or two after menstruation in a healthy female, the vulva and vagina being then, generally speaking, freely lubricated by mucus of this description. This mucous secretion is also increased under the influence of sexual orgasm. In the healthy state, it is not sufficiently abundant to constitute a discharge, merely lying on the parts where it is secreted.

The white creamy mucus is apparently formed by the mingling of the alkaline mucus of the cervical canal with the acid mucus of the vagina. As congestion of these membranes may exist physiologically, its presence even in abundance does not necessarily indicate disease. According to the most recent microscopic researches, its white or opaline color is owing to abundant epithelial scales, the result of the epithelial inflammation of these membranes. A large portion of the female population, especially in towns, present more or less of this



white leucorrhœal discharge during the physiological congestion which precedes and follows menstruation, but so long as they are free from local inflammation, its existence is of no importance, as alone it neither gives rise to local nor general symptoms. When, however, it is very abundant and persists throughout the menstrual interval, the circumstance is a suspicious one, and on examination there will be generally found some inflammatory condition of the cervix which keeps up the congestion. If the white mucus is not only abundant but mixed with pus and blood, the existence of inflammation is certain. But in that case there are almost always some local or general symptom. Such being the case in nine instances out of ten in which a female *seeks professional advice* for leucorrhœa, she will be found, on examination, to be suffering from some inflammatory disease of the uterine region. Were there not local disease, she will attach no importance to the discharge, feeling no inconvenience from its presence.

When the ropy transparent discharge, secreted by the numerous mucous follicles of the cavity of the uterine neck, is so abundant as not to be neutralized in the vagina, and is therein found as such, it is a certain sign of inflammation of that region. This ropy mucus in such cases is more than a mere hypersecretion of the mucous follicles of the cervical cavity. It is the result of actual inflammation of the mucous follicles themselves, or of the vascular framework of the mucous membrane in which they are imbedded; and, generally speaking, on careful inspection, the os and cavity of the cervix are found open, red, and inflamed, or ulcerated. The same secretion is observed in inflammation of the nares. In what is popularly called "cold in the head," the discharge is at first composed of a similar transparent glutinous mucus. In both these forms of disease, the discharge is of an acrid, irritating character. They are both the result of inflammation of mucous glands, and are both illustrations of what used to be termed catarrhal inflammation.

Pus indicates severe inflammation or ulceration. A very abundant secretion of pure pus seldom exists in simple inflammatory disease of the cervix and vagina: when pus flows in a stream from the vagina, the disease is almost invariably of a blennorrhagic character.

These various forms of vaginal discharge may be combined, as is generally indeed the case when there is ulcerative disease of the cervix. It must not, however, be forgotten, that inflammation, with or without ulceration, not unfrequently exists without any leucorrhœal discharge whatever; at least, without any of which the patient is cognizant, the morbid secretions being absorbed in the vagina.

When a patient is examined instrumentally, the exact nature of any existing discharge can be at once ascertained, but it is often difficult to obtain by any other means correct information on the subject. Indeed, little reliance can be placed on the physical characters of a vaginal discharge, for the purpose of diagnosis, when a physical examination is not made. Fortunately, as we have seen, other and more

important symptoms exist to guide us in the appreciation of the state of the uterine organs.

From the details which precede, it will be seen that a vaginal discharge, or leucorrhœa, may be either merely a hypersecretion, the result of congestion of the sexual organs, unconnected with actual disease, or it may be the result of actual inflammatory disease of these organs. This distinction is in strict accordance with the laws of general pathology. Mere congestive hypersecretions—flux, as they have been called—from mucous or glandular organs, do not produce irritation and morbid changes in the structure with which they come in contact, *apart from inflammation*. It requires the existence of inflammation to endow these hypersecretions with acrid, irritating properties. Thus a mucous flux or discharge may exist from the bowels for months or years to an enormous extent, without the anus or adjacent parts ever being irritated. The nasal secretion may be greatly increased, for a considerable space of time, without irritation of the alæ of the nose or of the lips. But let inflammation be the cause of the hypersecretion or flux, and at once the scene changes. If the mucus from the bowels is occasioned by inflammation of the intestinal mucous membrane, it becomes irritating, and excoriates the anus. If the hypersecretion from the nasal mucous membrane is occasioned by coryza or inflammatory cold in the head, the alæ of the nose and the lips are excoriated. Moreover, in all these instances, the morbid changes themselves produced, on the anus, the lips, the cheeks, erythema and excoriation. They are inflammatory changes, produced by an acrid, inflammatory secretion. Inflammation has supervened both as cause and as effect.

Such being the pathological law in other parts of the economy, it must also hold good in the uterus. The congestive hypersecretions of the cervical canal, and of the vagina, are in themselves innocuous, and only acquire irritating properties through the intervention of inflammation. They may and do increase and diminish in the different phases of the female's physiological state, under the influence of menstruation, pregnancy, over-exertion, mental emotion, &c., without any local morbid change occurring. When, however, their increase is accompanied with the ordinary local evidences of inflammation—swelling, redness, heat, pain, ulceration, and thickening of diseased tissues—it is because inflammation coexists, here as elsewhere, has changed the character of the discharge, and developed the whole train of morbid changes that characterize inflammation.

#### STERILITY.

Chronic inflammation of the body and of the neck of the uterus, and also of the ovaries, is a very frequent, and a generally unsuspected cause of sterility.

Chronic inflammation of the body of the womb appears to prevent conception taking place, by modifying the vitality of the uterus, and

perhaps, in some instances, by closing the Fallopian tubes. . Inflammation and ulceration of the cervix not only occasion sterility by the same morbid reaction on the uterine functions, but also superadd a physical impediment. When the os uteri and the cervical cavity are inflamed and ulcerated, the viscid muco-pus secreted closes the uterine cavity, and probably prevents the spermatozoa reaching that part where its presence is supposed by physiologists to be necessary for impregnation. It is also stated by some French pathologists, as the result of experiment, that the contact of this morbid mucus instantaneously kills the spermatozoa. The hypertrophy of the central tissues of the cervix produced by inflammation, and the spasmodic contraction of the os internum, may also close the uterine cavity.

With some females, however, none of these morbid conditions appear to prevent fecundation. With them the peculiar aptitude to impregnation seems so remarkable that they conceive under the most adverse circumstances, even when suffering from serious uterine disease. Thus there are many cases on record in which the partial destruction of the uterus from cancer has not prevented fecundation.

Sterility, as the result of chronic inflammation of the uterus and its neck, may be observed both in females who have never conceived, and in those who have. In a large proportion of the cases of confirmed sterility from the onset of marriage for which I have been consulted, I have found chronic inflammation, or inflammatory ulceration of the cervix and its cavity, to exist: and, on minute inquiry, I have generally been able to trace the symptoms of the disease to the first weeks of marriage, or even to a period antecedent to marriage. We are therefore fully warranted in looking upon inflammatory disease of the cervix as one of the most frequent causes of this species of sterility. On restoring the uterus to a state of integrity, some of the patients become pregnant, but many do not. I must, however, remark, that in those cases in which conception follows the removal of disease, it is often only after an interval of a year or more that it occurs, so that the results of the local treatment may eventually prove to be more successful than they at first appear. It would seem as if time were often required for the uterus to recover its physiological powers.

In most of the cases of sterility for which professional advice is required, the inflammatory disease and the sterility have existed for years—from two to fifteen. It is possible, therefore, that the long-continued existence of inflammation in such cases may, with some, modify the physiological powers of the uterus beyond recovery, even when the morbid condition is removed. Or it may be attended in the course of time, by inflammation, contraction, and obliteration of the Fallopian passages. It has been proposed to dilate the Fallopian tubes by means of a sound; but this plan of treatment, useless in case of mere closure of the canal for mucus, and dangerous in more decided stricture, from the risk of perforation, appears to have been speedily abandoned even by its author. In some of the cases of sterility which I have successfully treated, I have also dilated the cervical



canal, in addition to thoroughly curing the inflammatory and ulcerative disease of the cervix. One of my early cases was a childless lady, aged thirty-two, married seven years when I first saw her, during the whole of which time she had presented symptoms of uterine disease. The ulceration was extensive; and when it was quite cured, I dilated the upper part of the cervical canal, which was contracted. She became pregnant eighteen months after, and went to the full time. Another, a sterile lady, aged twenty-four, had been married four years when she consulted me. Like the former patient, she had presented uterine symptoms ever since her marriage. The inflammatory ulceration was less extensive, and after it was cured I also dilated the cervical cavity, and divided the os internum with Dr. Simpson's metrotome. She became pregnant six months after, but miscarried at four months. I have since had many cases of this description.

In the above cases, as both inflammatory disease and contraction of the os externum existed, it is difficult to say whether the dilatation had anything to do with subsequent impregnation. Conception may have been solely the result of the removal of the inflammatory disease. I have seen very many instances of sterility from inflammation, in which the patients have become pregnant after treatment, without dilatation being resorted to, although the contraction of the os internum was quite as marked. The following is a case of this kind. A lady aged thirty, married seven years, sterile, and living in a tropical climate, consulted me, in a very debilitated condition. She was laboring under severe inflammatory ulceration, which gave way under appropriate treatment. She left England to return home at the beginning of the year, and before its close I learned that she had become pregnant immediately on her return home, and was expecting her confinement.

On the other hand, I have, as already stated, in a considerable number of instances, divided the os internum, in patients cured of inflammation, who have remained sterile. I have not, however, performed this operation for many years (1861), as I can always succeed in permanently dilating the cervical canal, when necessary by the other means elsewhere enumerated.

It will be perceived from what precedes, that although I admit that contraction of the cervical canal and of the os internum may be, and occasionally is, a cause of sterility, I am not disposed to consider it the key to the treatment of sterility, as the latter often persists after it has been entirely removed. I am indebted to Dr. Simpson for having had my attention turned to this cause of sterility, and at first embraced his views with enthusiasm, and lost no opportunity of testing their correctness. Subsequently, however, I became rather discouraged, and now often shrink from exacting, on the score of sterility only, submission to so tedious and annoying a treatment as dilatation of the cervical. At the same time I consider the dilatation of the contracted cervical canal, in such cases, a perfectly legitimate operation. It is one, moreover, that ought to be performed if contraction

evidently exists, and professional assistance is appealed to with a view to the removal of every possible impediment to conception.

Women who have had families frequently become sterile from inflammatory disease of the uterus and of its cervix. Sterility thus occasioned is generally removed by the cure of the disease. I am continually seeing illustrations of this fact. Sometimes they become pregnant before the disease is quite cured, and sometimes after a year or two only. Occasionally, however, the uterus seems to have been morbidly modified, as in the preceding class of patients, and the woman remains permanently sterile.

Chronic inflammatory disease of the ovaries is no doubt occasionally a cause of sterility, but not, I believe, as frequently as uterine disease, owing partly to the existence of two ovaries. One ovary alone is sufficient for the maturation of healthy ova, and they are only simultaneously affected and structurally destroyed in very severe and general disease.

Although I thus attach so much importance, in the production of sterility, to local inflammatory lesions of the uterine system, including those of the ovaries, Fallopian tubes, and broad ligaments, which have been described in former sections of this work, it must not be supposed that I underrate the physiological causes of sterility. Fecundation is one of the most capricious of all human functions; and there are, no doubt, many physiological causes in operation which may produce sterility, the precise nature and mode of operation of which is concealed, and probably always will remain hidden, from us. It is thus that we see a female conceive with a first husband, and not with a second, and *vice versa*, although she herself is in the same physiological state, and both husbands may have had children by other women. It is thus, also, that we see healthy females remaining sterile for some years, and then conceiving with the same husband; or females having children at very variable intervals of their married life, although under precisely the same hygienic conditions. I firmly believe that these anomalies and apparent inconsistencies are often merely the result of latent disease, and of morbid local conditions, and, as such, susceptible of being explained and remedied. There are, however, other inferences to be taken into consideration, the cognizance of which is beyond the limits of human knowledge. From the last census it would appear that there are in Great Britain 500,000 married couples childless. In other words there are 500,000 married females sterile; one married woman in six is sterile. Now I cannot bring myself to believe that mere physiological or pathological deficiencies, either on the female or the male side, in a function which lasts during the greater part of our existence, can satisfactorily account for such a result. It is to me a more admissible belief that the Divine Power has a part for the childless to perform on the earth, which would not be performed were all to be blessed with progeny.

## ABORTION.

I have elsewhere (page 164, *et seq.*) entered so fully into the consideration of the connection which exists between inflammation and ulceration of the uterine neck and abortion, that it only remains for me here to recall, in a few words, what has been previously stated.

Abortion is often occasioned by inflammatory ulceration of the cervix, and likewise often occasions it. In the latter case, abortion occurs accidentally, under the influence of some generally recognized cause, the cervical orifice and canal are injured, and a morbid state remains. Local disease of this nature may follow the simplest abortion, from which the patient rallies in a few days; although it is more generally the result of those that are accompanied by inflammatory and hemorrhagic symptoms. Ulcerated disease of the cervix when once established, from whatever cause, is itself a frequent cause of abortion.

When abortion is the result of the actual existence of inflammatory disease of the uterus or of its cervix, it may be produced in various ways. The vitality of the womb may be so modified in the earliest stage of pregnancy, by the existence of its inflammation, that the foetal germ dies. In this case it is either expelled along with the membranes, or it is partly or entirely absorbed, the membranes continuing to grow for some months, and being eventually expelled under the form of a mole or false conception. Or the pregnancy may advance to a farther period, until the third or fourth month, when the womb, becoming too irritable, or being unable to develop itself, or the foetus dying, the membranes separate, flooding ensues, and the contents of the uterus are expelled. The placenta may also become the seat of fatty degeneration, or of some other form of disease, and thus occasion the death of the foetus and abortion. At a later stage still, when the muscular structure of the womb is more fully developed, the presence of inflammation may bring on strong reflex action, and occasion premature confinement, independently of any disease of the child, of the placenta, or of the membranes.

Abortions, no doubt, frequently occur under the influence of accidental causes alone, and of constitutional cachexia, such as scrofula and syphilis, without there being any local disease of the uterus or of its cervix. It may, however, be laid down as a rule, that a considerable proportion of the abortions which are preceded or followed by morbid symptoms, and of those which occur spontaneously without any evident cause, and in the absence of uterine tumor or constitutional cachexiæ, are occasioned by such inflammatory disease. It may also be considered as very probable that some obscure form of chronic inflammation exists when abortions quickly succeed one another, and when a female does not seem able to carry the product of impregnation to the full time.



## CHAPTER XIV.

## DISPLACEMENT OF THE UTERUS AND THEIR CONNECTION WITH INFLAMMATION—HISTORICAL CONSIDERATIONS—THE PATHOLOGY AND TREATMENT OF ANTEVERSION—RETROVERSION—RETROFLEXION—PROLAPSUS.

I HAVE stated in the first part of this work that, according to my experience, the displacement of the uterus so frequently observed in females presenting symptoms of uterine disturbance and suffering, are generally the result of increased volume and weight of some part or other of the organ. I have also stated that these displacements occur whether the uterine enlargement is produced by inflammatory action or by morbid growths, and that they are not the main cause of the sufferings complained of. This view of the usual origin, nature, and influence of uterine displacements is, however, so different from that entertained by many modern pathologists, and more especially by several who have recently written and spoken on the subject, that it requires elucidation, even at the expense of some repetition. I feel it the more necessary to thoroughly examine the history of uterine displacements, as I believe that the doctrines which attribute to their existence the sufferings, uterine and general, of the patient, being fundamentally wrong, are calculated to lead practitioners into serious practical errors.

The questions raised by the consideration of these doctrines are most difficult to solve, and have now for many years exercised the minds of the most eminent uterine pathologists, both in this country and in France. In the latter country, indeed, the pathological importance and the treatment of uterine displacements has been a subject of debate ever since the attention of the profession was first directed to uterine pathology; and was discussed for several consecutive months, during the year 1854, at the Académie de Médecine, most of the more eminent Paris uterine pathologists taking a part in the debate.<sup>1</sup>

## HISTORICAL CONSIDERATIONS.

The existence of uterine displacements, other than prolapsus, has long been noticed by writers on Diseases of Females, but the attention of the profession does not appear to have been more than casually directed to them, until the publication of the essays of Professor Schmitt, of Vienna, 1820, and of Professor Schweighäuser, of Stras-

<sup>1</sup> See Bulletin de l'Académie de Médecine, 1853-4, vol. xix. pp. 778-976.

burg, 1825, and until Récamier's minute researches into uterine pathology roused a new spirit of inquiry. As far back as 1836, thirty-five years ago, M. Amussat, impelled to the investigation of the physical condition of the uterus by M. Récamier's example, recognized a clinical fact, to which previously little or no attention had been paid, viz., that falling or prolapsus of the uterus is not the only displacement to which that organ is liable; and that displacements, forwards and backwards, anteversion and retroversion, are also very common. M. Amussat made in that year many attempts to replace the uterus, and to keep it replaced by mechanical means. He states that he invented and tried various kinds both of extra-uterine and of intra-uterine sounds, and pessaries, specimens of which he presented to the Paris Academy at the late debate. His researches in the direction of intra-uterine support were arrested, however, by the death of a young lady, suffering from anteversion, into whose uterus he had introduced an ivory stem pessary, with the view of permanently straightening it. She went home, was attacked with inflammation, and died "promptly."

Discouraged by this sad event, M. Amussat ceased to make any efforts to straighten the uterus by mechanical agents applied to the interior of the organ, and directed his attention merely to cervical and vaginal means of treatment and support.

A few years later, M. Velpeau commenced a series of experiments with the same view, that of straightening the womb mechanically, through the agency of intra-uterine sounds. He invented a metallic spring stem, which he first introduced curved into the uterus through a gum-elastic canula, and then straightened by touching the spring. Finding, however, that although the intra-uterine sound temporarily restored the uterus to its natural direction, its presence occasioned severe accidents, M. Velpeau likewise discarded its use, and, from that time forward, principally relied on bandages of various kinds, and especially on abdominal bandages.

My own personal knowledge of Parisian opinions and practice, in reference to uterine pathology, dates from the year 1836, in which year I joined the medical schools of this city. During nearly eight years I was, without interruption, connected with the hospitals, at first as pupil, afterwards as an official, and thus became acquainted with the views and practice of most of the surgeons and accoucheurs who took a part in the Academy debate of 1854; for it is worthy of passing remark, that surgeons and accoucheurs only spoke on the subject under discussion, not a single physician having joined in it. I was from the first thrown in contact with M. Velpeau, and who then and since has ever shown himself to me the kindest of teachers and friends. I can thus bear testimony to the fact, that he was at that epoch constantly lecturing on anteversion and retroversion. Indeed, during the year 1838, when I officiated under him at La Charité, as dresser and clinical clerk, I took down many cases of this description, in his female wards. At that time, he was not using for treatment any mechanical means of support, but depending on rest, general treat-

ment, and the use of bandages. The speculum was also but seldom resorted to, and inflammatory lesions were but little talked of. He was clearly then, even more than now, under the influence of the mechanical views of uterine pathology—that is, he then attributed, as he still does, principal importance to displacements of the uterus. He thought that they often existed independently of inflammatory action, as a cause, and considered them to be the main origin of the uterine suffering which so often accompanies them.

I was the more struck with these views, as at the same time I had become acquainted with the doctrines and practice of Lisfranc and Gendrin at La Pitié. These practitioners both used the speculum constantly, considered the lesions which it brought to light as of primary importance, and the displacements—deviations they are called, in Paris—which accompany them, as secondary phenomena; generally speaking, the result of inflammatory engorgement or enlargement.

Since then, in Paris, uterine pathology has obeyed these two directions. Some have followed Amussat and Velpeau, and inclined to what may be termed the “displacement theory”—that is, to the interpretation of uterine suffering by uterine displacement; whilst others, on the contrary, following Récamier, Lisfranc, and Gendrin, have inclined to the inflammation theory. I need scarcely add that I myself belong completely to this latter school. The more I have studied and observed, the more convinced have I become that the true key to by far the largest part of the field of uterine pathology is to be found in the accurate knowledge of inflammatory and congestive phenomena in the different tissues and regions of the uterus.

Although uterine pathologists have been thus, in Paris, separated, as it were, theoretically, into two schools, I may say that the actual treatment of uterine disease has not so essentially differed as might have been expected until the recent researches and publications of Professor Simpson, of Edinburgh, became known. All, or nearly all, admitted the frequent existence of inflammatory lesions, and taught that they ought, once recognized, to be treated and removed. Only, those who considered these lesions the “*fons et origo mali*” were satisfied that they had done all that was necessary for the local treatment of their patients when they had removed them; whereas those who thought the displacements of the uterus the principal mischief, and the inflammatory lesions mere epiphenomena, often overlooked their presence, and trusted from the first to pessaries, bandages, &c.

In the late discussion at the Academy of Medicine, these two schools were very fairly reproduced. Singularly enough, the surgeons, represented by Velpeau, Amussat, Malgaigne, Huguier, &c., principally took the displacement view of the subject. Whereas the inflammation view was supported by the physician-accoucheurs, Paul Dubois, Depaul, and Cazeau. This rather remarkable fact renders it all the more difficult for an impartial observer to judge between conflicting opinions, as it shows the existence of a mental bias, corresponding



with the general tenor of studies and of professional preoccupation. Is it not possible, however, that practitioners, whose pursuits, like those of accoucheurs, are not purely either medical or surgical, and whose position in the healing art is, consequently, a double one, may be the best qualified to judge a question which evidently lies on the frontier-ground between medicine and surgery?

In Great Britain, displacements of the uterus, with the exception of prolapsus, were but little thought of until the publication of Dr. Simpson's paper on the Uterine Sound, in 1843, and more especially that of his essay on Retroversion of the Unimpregnated Uterus, in the *Dublin Quarterly Journal* for May, 1840. In this latter able and lucid memoir, Dr. Simpson described at length retroflexion and retroversion of the uterus. Finding the replacement of the retroverted uterus by means of the uterine sound totally inefficient, he proposed for their treatment his fixed stem pessary. This pessary comprises three parts; the stem two inches and one-third long, which occupies the cervical canal, and enters the uterus, terminating in a bulb on which the cervix rests; and the vaginal and external parts, by means of which it is fixed on the pubis. It thus mechanically straightens the uterus, and maintains it all but immovable. In his essay, Dr. Simpson merely alludes to anteversion, on which French pathologists lay great stress, and he does not speak of lateral displacements, or latero-versions. He enters, however, at length into the pathology of retroversion, and ascribes to it most of the symptoms of uterine disturbance and suffering which I and others ascribe to inflammatory lesions. The intra-uterine mode of treatment is also brought forward in the essay in question, as one which he had tried for some time, found free from risk or danger, and pre-eminently successful.

The intra-uterine, or stem pessary, thus revived—simplified and improved no doubt, and guaranteed as a safe and efficacious agent by a pathologist of great weight and authority—was received with favor, both in this country and abroad, by the followers of the mechanical or displacement school. To them, the deviations of the uterus were still the principal cause of uterine suffering, and yet they were miserably deficient in means of treatment. M. Amussat was reduced to propose to establish adhesion between the posterior surface of the cervix uteri and the vagina by means of potassa fusa! M. Velpeau seemed to rely on abdominal and other bandages; M. Hervey de Chegoin and others, on vaginal pessaries of various forms and materials: and all to little or no purpose, for the displacements were obstinate, and the womb would not be replaced or straightened by such means. This favor was greater even in Paris than in England, owing to the greater hold these doctrines had over the medical mind. The late M. Valleix, like myself, an old pupil of M. Velpeau, more especially distinguished himself by his ardent and uncompromising advocacy of the displacement theory, and of the treatment of uterine displacements by the use of the intra-uterine stem pessary.

It would be vain to attempt to reproduce the various arguments

that have been adduced on both sides, at home and abroad; it would take a volume. I shall, therefore, all but confine myself to recording my own opinions, and the data on which they are founded. Many years' additional personal experience, and an attentive study of all that has been done and said during that time, have only confirmed the views I advanced in the second edition of this work (1849). I then said, and still believe, that the displacement theory, as an explanation of the morbid uterine and general symptoms of those who present uterine displacements, is an error. I also stated that most (not all) of these uterine displacements had their origin in modifications of volume, the result of inflammatory lesions, directly or indirectly; and that the rational treatment of these displacements consisted in the treatment of the inflammatory lesions which produce them.

I shall now take into consideration the facts which have led me, individually, to repudiate the doctrine of uterine displacement as the principal cause of uterine suffering, and which prevent my resorting, unless in exceptional cases, to mechanical means for the treatment of these displacements.

#### ANATOMICAL AND PHYSIOLOGICAL FACTS BEARING ON DISPLACEMENT OF THE UTERUS.

In order to appreciate correctly the intricate question of uterine displacements, there are various facts, anatomical and physiological, to some of which reference has already been made, which should be known and borne in mind.

The principal anatomical feature to which I would draw attention is, the extreme mobility of the healthy unimpregnated uterus. This extreme mobility may be proved experimentally. If the index finger is passed into the vagina—the patient lying on her back, the pelvis elevated, and the knees flexed—and if pressure is made on the cervix with the finger, it will be found that the healthy uterus yields with the greatest readiness to the slightest impulsion. It affords so little resistance to the finger, that, if the bladder and rectum are empty, it may be either raised directly upwards, towards the upper pelvic outlet, or depressed posteriorly, anteriorly, or laterally, and that with the greatest ease, and without the patient experiencing even discomfort.

The anatomical explanation of this great freedom of motion of the healthy uterus is to be found in the smallness of its size, and in the laxity of its connections with the pelvic organs and cavity. In the female who has not borne children, the uterus only weighs an ounce or an ounce and a half; even in one who has borne children, it does not weigh more than two ounces in the healthy state. This smallness in size of the uterus is evidently a provision of Nature. A small, light organ could be supported and kept *in situ* without the necessity of strong, unyielding bands or ligaments; whereas such means of support and retention would have been indispensable had the uterus been large and heavy, and at the same time would have been quite

incompatible with the changes which it is destined to undergo in pregnancy.

On examining minutely the means of support which the uterus presents, we find that they are very slight. The lateral ligaments are not so much means of sustentation as peritoneal folds, enveloping the uterine appendages—the ovaries, Fallopian tubes, and round ligaments. The latter, by their passage through the inguinal canal, and their firm cutaneous attachment, are really means of sustentation; but the support which they give to the uterus is very much like that given to a swing by the two ropes which suspend it, and which allow great freedom of motion in every sense. The insertion of the vagina on the neck of the uterus, and the closure of the vaginal canal on the lower extremity of the cervical cone, contribute in the healthy female to support the uterus. It is at the insertion of the vagina on the neck of the uterus that the neck or lower segment of the uterus passes out of the pelvic cavity through the inferior pelvic fascia, which, no doubt, assists the vagina to support it. The connection between the fundus of the bladder and the neck of the uterus also evidently contributes to fix the uterus in its normal state: as does the pressure of the surrounding organs, the pelvic cavity being full and more or less closely packed during life.

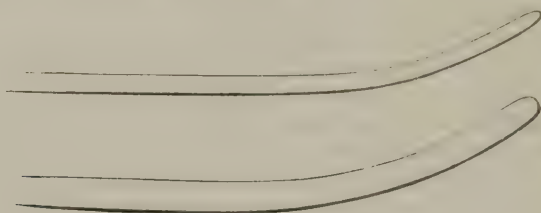
The connection of the upper portion of the cervix with the bladder anteriorly, and with the round ligaments laterally, is also important in another sense, pathological as well as anatomical. The body of the uterus being free from attachments beyond these points of vesico-cervical connection, which correspond to the union of the cervix with the body of the uterus, it is there that any change in the axis of the uterus is most likely to occur, and does occur. As I have said above, the uterus swings, as it were, on this point.

If the walls of the abdomen are removed, and the uterus is examined *in situ*, it will be found that the uterus and the lateral ligaments extend across the pelvic cavity, and divide it into two sub-cavities: one smaller, the anterior, which contains the bladder; the other larger, the posterior, which contains the rectum. The uterus and the bladder are generally in juxtaposition; but the uterus and rectum, especially when the latter is empty, are separated by small intestines, which fill up the pelvic cavity and form a posterior support to the uterus.

The healthy uterus, in its normal condition and position, especially in virgin women who have never borne children, is, I have ascertained, generally slightly inclined forwards, that is, slightly anteflexed. This fact is not mentioned by anatomists; but is of great importance from its direct bearing on the pathology of one of the forms of uterine displacement—anteflexion and anteversion. I became acquainted with the existence of this normal anteflexion accidentally a few years ago. Finding, as I have elsewhere stated, that the vital contraction of the os internum during life often opposes considerable resistance to the introduction of the sound into the uterus, I tried small wax or gum-elastic bougies, which generally pass with comparative ease. If these



bougies are left a minute or two in the uterine cavity of a virgin or multiparous woman, the uterus being perfectly healthy and normal in size, on withdrawal they all but invariably present a slight anterior curve, as in the accompanying woodcut:—



The degree of the curve varies, as in the engraving, which represents two bougies that had been allowed to remain a couple of minutes in the uteri of two young sterile patients, perfectly free from uterine disease. One I had treated successfully, by dilatation, for dysmenorrhœa, the result of congenital narrowness of the cervical canal; the other I had treated for an inflammatory affection of the neck of the womb, and she had quite lost all morbid symptoms. Every precaution was taken to insure correctness; the bougies being introduced by means of the speculum. This slight curve I find so constantly, as I describe it, in the healthy uterus, and especially in females who have never been impregnated, that I cannot but consider it to be normal. Its existence as the rule, moreover, is corroborated by the researches of M. Boullard, a young Paris surgeon, Prosector to the Faculty, who, after numerous and extended cadaveric investigations, has arrived at the same conclusion. Thus, his researches, as given in his inaugural Thesis (Paris, April, 1853) tend to establish by the examination of the dead, what mine tend to establish by the examination of the living—viz., the existence of a slight degree of ante flexion as a natural anatomical state. M. Boullard's statements were discussed, and partly substantiated, partly negatived, at the Paris Academy of Medicine, but principally on data furnished by the digital examination of living patients. The least consideration, however, will show that such a slight curve as the one indicated in the above woodcut cannot be satisfactorily appreciated by the touch, although pathologically very important, as a predisposing cause of morbid anteversion.

In women who have borne children, this slight anterior curvature is less marked, and if they have had many it is often lost. Indeed, one child may straighten the uterus entirely, and in some females it is absent. From the first, according to M. Boullard, this anterior uterine curvature is most marked in the fœtus, and in early childhood, becoming less so as the uterus becomes developed.

The axis of the unimpregnated healthy uterus is generally considered to be that of the upper pelvic outlet; but if the slight anterior curvature which I describe is recognized, we must admit that the axis

of the upper portion of the uterus only, corresponds to the upper pelvic outlet, whereas that of the lower portion or neck would partly correspond to that of the lower pelvic outlet. M. Cruveilhier says that the uterus has "no axis"—meaning thereby that its changes of position are so variable and constant that it can scarcely be said, anatomically speaking, to have any normal axis.

In speaking of the axis and normal position of the uterus, it is necessary to call to mind the fact that congenital modifications of form and axis are occasionally found. The uterus may be anteflexed, retroflexed, or lateroflexed as a congenital state, the inflexion varying from a scarcely perceptible degree to one in which the uterus is completely bent on itself, so that the cervix and body of the uterus correspond. These congenital malformations were ably described by M. Huguier, of Paris, a few years ago. I constantly meet with illustrations of evident congenital deviation of the uterus from its normal standard.

The position of the uterus, and consequently its axis, is often changed or modified, owing to a physiological cause—marriage—which acts independently of disease of any kind or description. This really physiological displacement is of such constant occurrence, that it ought to be taken seriously into consideration. Under the influence of congress, in a great number of women entirely free from any morbid uterine state, sterile or not, the cervix is thrown mechanically backwards, and the body of the uterus forwards, that is, in anteversion. This is more especially the case when the vagina is short, or when the cervix is long from the vagina being inserted high up on the uterus, so as to expose in the vaginal cul-de-sac a considerable portion of the uterine neck. This frequent existence of deviation or displacement of the cervix backwards and of the uterus forwards, as a really post-marital physiological state, independently of any morbid uterine condition, or of any kind of pelvic change or influence, must be considered an important element in the appreciation of the pathological importance of anteversion of the uterus. Indeed, its non-recognition, in my opinion, renders to a great extent valueless the conclusions of many who have spoken and written on the subject.

Owing to the laxity and freedom of the anatomical connections which I have above described, the uterus moves, as we have seen, with the greatest freedom in the pelvic cavity, readily adapting itself to the ever-varying positions which it is called upon to assume. Thus, if the bladder is full, it presses on the uterus and retroverts it, a fact which can easily be ascertained. If the rectum is loaded with feces, it displaces the small intestines, presses on the uterus from behind, and anteverts it. In walking and riding the uterus sways to and fro, more or less according to the degree of tightness with which the pelvic viscera are packed, and according to the degree of support it receives. But in walking and in standing it falls slightly. Indeed, I believe that in every woman, however healthy, the uterus is always lower when she retires to rest at night than when she rises in the morning.

Moreover, as we have seen, in the married condition, it is constantly exposed to physiological displacements.

The freedom of motion which its ligaments and modes of attachment allow to the uterus is, however, most forcibly illustrated by the change of position which occurs in pregnancy. After the first few months of pregnancy, the enlarged uterus ascends and leaves its former position and connections in the pelvic cavity, becoming for the time an abdominal organ. To admit of this entire change of position, the lateral ligaments unfold, and the round ligaments are elongated as the uterus increases in size. At the termination of the pregnancy, the uterus, which in a primipara has increased from one ounce to thirty or forty ounces, rapidly returns to all but its former size—to about two ounces, passing through a series of vital changes. This marvellous return to all but the original size and weight no doubt takes place, in order that the means of support which we have enumerated may again be sufficient to support the uterus, and to maintain it *in situ*. These changes, from small to large, and from large to small, moreover, are capable of being reproduced an indefinite number of times, during the period of ovarian activity. It is to this end that the uterus is made an organ apart from all others; that it is endowed with vital powers which no other either requires or possesses.

From what precedes—and the facts which have been advanced cannot be denied—it is evident that even the unimpregnated uterus, in health, is by no means destined to remain constantly in the same anatomical position, to preserve constantly the same axis. It is also equally evident that the healthy uterus bears changes of position, and considerable pressure from surrounding organs, &c., without either pain, discomfort, or inconvenience.

The explanation of this fact is to be found in a physiological law, which, although well known, appears to me to have been all but entirely lost sight of in the discussion of uterine displacements. All our organs, internal and external, *when in a healthy state*, are capable of bearing, without pain or inconvenience, considerable pressure, and any degree of displacement of which their means of fixity can admit. Thus, if a healthy person lies on the side—say the right side—the heart, the left lung, the stomach full of food, obey the laws of gravity, fall more or less, and press on the organs beneath them; and that, as I have said, without occasioning pain or inconvenience. Were any of these organs inflamed, however, the result would be far different: great pain would be experienced. Thence it is that patients suffering from inflammation of any thoracic or abdominal organ lie on the back, to avoid the pressure of the surrounding viscera on the diseased organ, pressure which it can no longer bear.

It may be objected that physiological pressure, the result of change of position and of functional conditions, is essentially temporary, and that, were it permanent, it would not be so easily borne. Here, however, general pathology comes to our assistance, and teaches us that *non-inflammatory* morbid growths and tumors, slowly developing



themselves, may exercise considerable *permanent* pressure on the organs which surround them, without the supervention of any symptoms of distress or inconvenience.

#### THE PATHOLOGY AND TREATMENT OF DISPLACEMENTS OF THE UTERUS.

The uterus may be displaced or deviated in various ways. Its position and form may be modified with reference to its own axis, or with reference to its conventional anatomical pelvic axis, which corresponds, as we have seen, to that of the upper pelvic outlet. When the axis of the uterus itself is modified, the uterus is said to be flexed, anteriorly, posteriorly, or laterally, and we have thus antero-flexion, retro-flexion, and latero-flexion. When the uterus is displaced *in toto*, without any abnormal bend or flexion taking place, so that its axis is changed with reference to that of the upper pelvic outlet, it is said to be prolapsed, antero-verted, retroverted, or latero-verted.

*Practically*, these two forms of uterine displacement are so often met with in the same uterus, and are often so evidently stages, degrees, of the same morbid state, that they may be merged into one, and we need only recognize four forms of uterine displacement—prolapsus, antero-version, retro-version, and latero-version. *Theoretically*, however, we must accept the two; for if these displacements really do exercise an important influence in the production of morbid uterine and general symptoms, the *modus operandi* in both, or at least in the more simple cases of both, must be quite different. In simple flexion, unaccompanied by uterine enlargement, the pressure is merely intra-uterine—is only felt, in an appreciable degree, by the walls, vessels, and nerves of the bent uterus. In actual displacement of the uterus in mass, the uterine structures themselves remain as they are; the pressure is on the surrounding organs and the strain is extra-uterine, on the ligaments and extra-uterine vessels and nerves.

Simple or combined, these morbid conditions of uterine position are generally found to coexist with the uterine and general suffering to which I have so repeatedly alluded, and with the inflammatory lesions which so usually accompany it. The extreme partisans of "The Displacement Theory" attribute to the existence of these displacements the primary importance, and think that, in the majority of cases, they are the real cause of the mischief existing; that they constitute the morbid condition which principally requires treatment. In their eyes the coexisting inflammatory lesions, the ulcerations, hypertrophies, and indurations, are, in many, if not in the majority of cases, epiphenomena, either occasioned by the displacement, or merely complicating it. Before, however, we critically examine their views, we must describe, separately, these different forms of displacement.

#### PROLAPSUS OF THE UTERUS.

Prolapsus, or falling of the uterus, either partial or complete, is generally attributed to laxity of the uterine ligaments. This opinion, as

we have seen, is founded on an anatomical error, the supposed fixity of this organ. The uterus is not only supported and retained *in situ* by its ligaments, but also by the pressure of the surrounding organs and by the contraction of the upper part of the vagina on its lower segment. In a word, it is as much poised as suspended in the centre of the pelvic cavity. That such was the intention of Nature is obvious from the small size and lightness of the virgin and unimpregnated uterus. It is certainly one of the problems of the animal economy that an organ that weighs several pounds when its functions are fully called into action, at the moment of parturition, should, in a state of vacuity, only weigh from one to two ounces. A large heavy organ would, however, have required powerful means of sustentation, which would have been incompatible with the enlargement and change of position that take place in pregnancy.

This anatomical fact accounts for the displacements which inevitably occur when any *one* region of the womb increases in weight. Should it be the cervix that becomes enlarged and heavy, as is the case when it is congested or inflamed, the entire organ falls in the direction of the axis of the pelvic outlet, and approximating to the vulva, constitutes partial prolapsus; the extent of the prolapsus depending principally on the extent of the hypertrophy of the cervix, and on the contractility of the vagina. Slight general enlargement of the uterus may, owing to increased weight, be followed by the same result. When the general enlargement is considerable, as in advancing pregnancy, or increasing size from tumor, the uterus usually ascends, and emerges from the pelvis into the abdominal cavity.

The vagina, in the healthy state, is not a mere open pouch, but a contractile closed canal, like the rectum, which closes on and supports the uterine neck, and contributes to the support of the uterus. In virgins, with whom the vagina is very contractile, prolapsus seldom exists to any extent. In married women who have had children, it is often considerable, the cervix with them frequently reaching the vulva. Occasionally it protrudes externally, and even drags after it the entire uterus, so as to constitute complete prolapsus, or procidentia uteri. This result may be attributed to the general relaxation of the vagina, of the pelvic fascia, and of the ligaments which follows upon parturition, and which is not so fully recovered from in some women as in others.

These extreme forms of prolapsus are mostly accompanied by complete relaxation of the vagina, vulva, and pelvic fascia, the vagina constituting a wide non-contractile pouch, and the vulva offering no support to the prolapsed uterus. They are occasionally, also, connected with lacerated perineum. In the great majority of cases of procidentia uteri, the cervix is found inflamed, ulcerated, and enlarged. The frequency of ulceration of the cervix in complete uterine prolapsus has long been generally recognized, and it has always been a source of surprise to me that its existence, under these circumstances, did not lead pathologists to look for inflammatory ulceration in the

non-prolapsed uterus. The ulcerations, however, were thought to be merely the result of the friction of the prolapsed cervix against external objects.

When complete procidentia of the uterus is not occasioned by hypertrophic elongation of the cervix, it is thus generally the result of the combination and exaggeration of all the causes that give rise to partial prolapsus—increased weight of the lower segment of the uterus, extreme laxity of the lateral ligaments, relaxation of the lower pelvic fascia, and more especially complete annihilation of all contractile power of the vagina and vulva. Complete prolapsus of the uterus would, I am convinced, be much more frequent than it is in married females who have had children, and who are suffering from inflammatory enlargement of the cervix, were it not that in them the hypertrophied cervix is very often retroverted. Being thus lodged, as it were, in the cavity of the sacrum, on the rectum and perineum, the uterine neck receives an artificial support, which prevents its following the axis of the pelvic outlet, and appearing externally. Prolapsus of the uterus is occasionally complicated with prolapsus of the bladder. In procidentia uteri the bladder is often dragged down from its natural position, so as to cover a portion of the anterior and superior surface of the prolapsed uterus. Prolapsus of the bladder is constantly mistaken for uterine prolapsus by the patient, and often by her medical attendant. A careful examination can alone clear up the nature of the case, as in both instances there is a tumor at the vulvar orifice.

That partial prolapsus of the uterus is really owing, in the immense majority of cases, solely to increase in the volume and weight of the cervix, and to the relaxed state of the vagina, induced by inflammation and distension, must soon become apparent to any practitioner who gives himself the trouble accurately to ascertain the position of the enlarged and inflamed cervix when a patient first applies to him for advice, and to compare it with that which it occupies when the ulceration is healed, the hypertrophy reduced, and the vagina restored to a healthy state of contractility. He will then almost invariably find the cervix two or three inches higher; the finger, which at first found the cervix low down, just behind the vulva, being only barely able to reach it. The patient herself is generally aware of the change, and will often say, towards the close of such treatment, that she feels the pain of the cauterization in quite a different position, very much higher up than she did at first.

Such being the real cause of partial prolapsus in nearly all the cases that are met with in practice, it is evident that the mechanical means of sustentation generally resorted to, such as pessarias, &c., are perfectly useless as curative agents; that so far from curing, they actually increase the tendency to prolapsus by irritating the inflamed tissues, and destroying, through distension, the natural contractility of the vagina. The proper treatment is that of the morbid conditions which occasion the displacement.



## RETROVERSION OF THE CERVIX AND ANTEVERSION OF THE UTERUS.

Retroversion of the cervix is exceedingly common, and is the principal cause and origin of anteversion of the body of the uterus. In this form of displacement, the cervix lies in the cavity of the sacrum, resting on the rectum, and the body of the uterus is more or less thrown forward or anteverted. This is one of the forms of uterine displacement which have been misunderstood and misinterpreted by modern writers. By them it is represented as in itself an important morbid condition, the cause of a host of symptoms.

In reality, retroversion of the cervix is, in the very great majority of cases, merely one of the ordinary results of inflammation, comparatively of but little importance, and easily explained. Patients suffering from uterine inflammation, finding that walking and standing are painful, generally lie or recline as much as possible. In this position the uterine neck, if hypertrophied and heavy, not only falls in the vagina, but bears on the posterior vaginal wall, and in the course of time becomes retroverted, especially if the contractility of the vagina has been relaxed by inflammation.

In married females, as we have seen, intercourse exaggerates, and may even alone occasion, this displacement of the cervix. As long as the cervix is healthy it remains small and elastic, and yields easily to pressure; but when it becomes enlarged and indurated as the result of inflammatory disease, it offers resistance to pressure, and is gradually thrust more and more backwards, by intercourse, into the cavity of the sacrum. Indeed, the combined action of these causes operates so powerful in married women, that it is only an exception to find the hypertrophied cervix in any other position. In young unmarried females, on the contrary, retroversion of the cervix is rarely observed, even when the cervix is considerably enlarged. This is owing to the uterine neck not being exposed to physical pressure, and to the vagina being, generally speaking, more contractile, so that it guides the hypertrophied cervix, as it were, towards the vulva.

The extent to which the retroversion of the uterine neck is carried depends partly on the degree of the hypertrophy, and partly on the length of time that it has existed. When the cervix is very voluminous, has been so for years, and the patient has uninterruptedly been living with her husband, it is often thrust so far back towards the sacrum, that it can scarcely be reached with the finger, and the speculum has, as it were, to search it out of the sacral region. Some of the most difficult instrumental cases that I have met with have been of this description.

If the cervix, not being very voluminous, is only turned backwards, and does not press upon the rectum, so far from the displacement giving rise to serious symptoms, I do not think it occasions any, or that the patient is made aware of its existence by any abnormal sensations. The morbid symptoms which have been described as the result of this displacement are, in reality, the symptoms of the inflam-

matory and ulcerative disease which occasions it, and which is nearly always in full activity when the displacement is recognized. To regard inflammation, ulceration, and the local functional and general symptoms in these cases as the result of the displacement, is an utter delusion; it is simply to substitute cause for effect.

According to my experience, as I have repeatedly stated, displacements of the uterus and of its neck, *in whatever direction they occur*, when slight, and when they have taken place gradually, do not occasion any symptoms whatever, if there is no inflammation present. The uterine ligaments are organized by nature to give way to gradual traction, without pain or uneasiness, as we daily see in pregnancy. Thence the pressure of the anteverted uterus and cervix on the bladder, or of the retroverted uterus and cervix on the rectum, unless the organs involved be rendered sensitive by inflammation, only give rise to marked symptoms when the displacement is so great as to interfere with the functions of the organs compressed. Under all other circumstances, only slight sensations of discomfort or bearing-down are experienced, and even these are often absent.

The history of fibrous growths permits no room for doubt on this question. These growths almost invariably attain a considerable size, and deeply modify the position of the uterus, giving rise to retroversion or anteversion, and exercising considerable pressure on the pelvic viscera, before they occasion any appreciable symptoms. In fact, patients thus suffering seldom complain at all, unless there be some concomitant inflammatory affection of the cervix or its cavity, until even the external appearance of the abdomen be modified by the size of the tumor, or until hemorrhage supervene. The first period of the existence of the tumor, and the displacement which it occasions, passes unperceived and unnoticed by the patient herself and by her medical attendant. We have already seen that the impunity with which pressure may be exercised on viscera and organs by tumors, the growth of which is very gradual, may be observed in every part of the economy. Even the brain, the most sensitive of all to pressure, will bear it, if very gradually applied. Thus we often see exostosis and tubercular formations greatly compressing the cerebral substance without the supervention of any symptom until the growth have reached a considerable size, or until inflammation supervene. It may, indeed, be considered an axiom in pathology, that all organs will largely accommodate themselves to pressure, provided such pressure be gradually applied, not carried to the extent of seriously interfering with their functions, and be unaccompanied by inflammatory action.

The errors which have been and are still made with reference to the pathological importance of retroversion of the cervix and of the body of the uterus, are susceptible of explanation. To a practitioner unacquainted with the extreme frequency of inflammation and ulceration of the uterine neck, and whose finger has not been educated to recognize these lesions, the most prominent feature, on a digital examination, in a case of inflammation of this organ, accompanied by retro-

version, is undoubtedly the retroversion. He is, therefore, naturally enough, inclined to attribute the sufferings of the patient to the retroversion, not being aware of the existence of other lesions which constitute the real cause of the morbid symptoms.

Even those who resort to instrumental examination of the uterus may thus be led astray. The fact on which I have laid so much stress—namely, the very frequent penetration of inflammatory disease into the cavity of the cervix uteri, and its tendency to lurk therein, and to perpetuate the symptoms of inflammation, is but little, if at all known. Thus the practitioner may recognize ulceration of the cervix in a case of inflammatory induration and retroversion, and may, to all appearance, cure the ulceration without the symptoms disappearing. Under such circumstances, he thinks himself warranted in concluding that the retroversion is the cause of the remaining symptoms, whereas, were he to evert the lips of the os uteri with a proper bivalve speculum, and carefully examine the state of the cervical canal, he would detect disease still in existence—the real cause of the persistence of the morbid symptoms. I am continually meeting with cases of this description—cases in which the pains in the back and in the side, the bearing down, inability to walk, and disordered state of health, persisting after the apparent cure of ulcerative disease of the cervix, are erroneously attributed to retroversion; whereas, in reality, they are occasioned by latent and unrecognized inflammatory action in the cavity of the cervix. Patients of my own, thus suffering, have applied to practitioners professing these doctrines, and have been told that these symptoms were owing to retroversion, and were only to be remedied by instrumentally replacing the uterus—the internal disease of the cervical cavity being entirely overlooked. They have again applied to me; the internal cervical inflammation has been subdued, and they have lost all the morbid symptoms, although the uterus remained more or less displaced.

When the cervix is not very voluminous, even if considerably retroverted, it does not press to any great extent on the rectum. If, on the contrary, it is very much hypertrophied and enlarged, it becomes imbedded in the anterior part of the bowel, and may interfere materially with the escape of the feces. The passage of feces through the rectum, however, is seldom attended with that excruciating pain which is experienced when it is the inflamed body of the uterus that is retroverted on to the rectum, and which has to be raised to allow of the escape of its contents. The explanation is obvious; the hypertrophied cervix is seldom very sensitive to pressure, whilst the inflamed uterine body is always acutely so.

If the retroversion of the cervix be extreme, the body of the uterus may be thrown considerably forwards, so as to press slightly on the bladder. Whenever this is the case, any irritability of the bladder which may coexist is at once attributed to the pressure. Although I am quite prepared to admit that pressure of this description may occasion vesical irritation, I think it seldom does, and that this



painful symptom is generally the result of that morbid state of the mucous membrane of the urinary system which I have described at length, when speaking of the symptoms of inflammation of the cervix. I am the more inclined to hold this opinion, that in retroversion of the womb during pregnancy, in which the cervix may be pressed against the symphysis pubis to such an extent as entirely to prevent the escape of urine from the bladder, it is not so much irritability that is experienced, as difficulty or even total inability to void urine. Again, when pressure is exercised from above on the body of the bladder by the pregnant uterus, by an ovarian tumor, or by a fibrous growth of the uterus, ascended into the abdomen, the patient does not experience pain and irritation, but a frequent desire to pass water, owing to the bladder being pressed upon, and unable to dilate. Lastly, I continually see patients in whom the anteversion of the uterus is considerable, but who present no vesical irritation whatever. I may also remark, that anteversion from inflammatory enlargement and displacement is very rarely carried to such an extent as for the uterus absolutely to rest and press on the bladder.

Anteversion of the body of the uterus will generally be found in practice to coincide, as described above, with hypertrophy and retroversion of the cervix, which no doubt occasions it. Occasionally, however, it is found to exist without any morbid condition of the cervix, which is healthy and simply retroverted or in its natural site. In the latter case there is a retort-like flexion of the uterus, and the organ is "anteflexed." This malposition may be the result of enlargement of the anterior and superior region of the uterus, tilting it forward, but it is much more frequently the result of the congenital exaggeration of the natural interior curve of the uterus described at page 354. In some women, as we have seen, the uterus in health represents a crescent, the concavity turned towards the pubis, and disease exaggerates this condition by enlarging the entire organ.

Retroversion of the cervix and anteversion of the uterus being the result of the morbid conditions and the physical causes which I have described, especially in married females, in whom it is principally observed, the use of pessaries and bougies alone can be of little avail in permanently remedying the displacement. The hypertrophied cervix, even after successful treatment, nearly always retains a slight increase in density and volume, which is quite sufficient to oppose resistance to pressure, and to allow of its being thrust back again as soon as marital intercourse is allowed. Indeed, I find retroversion of the cervix existing, to a greater or less extent, in most married females in whom the neck of the uterus is at all elongated naturally, and this in the absence of any morbid change in its structure. The simple fact of the cervix offering a certain volume, appears sufficient to occasion it to be thrust towards the sacrum in the way I describe.

Although but little advantage can be derived from the instrumental treatment of this form of displacement by bougies and pessaries, its existence must be taken into consideration in the treatment, as one of the morbid elements of the case.

## RETROVERSION OF THE UTERUS, AND ANTEVERSION OF THE CERVIX.

Retroversion of the uterus consists in the displacement, backwards, of the body of the uterus, which then rests on the rectum. This displacement, as we have seen, is termed retroflexion, or retroversion, according as the body of the uterus forms an angle with its neck or not. If the neck of the uterus is healthy and soft, the body of the uterus, in falling, does not alter the position of the cervix, and a bend or angle takes place between the two, the concavity of which is backwards and downwards. On the contrary, if the cervix is enlarged and indurated, and the induration extends into the body of the uterus, the cervix is thrown up towards the symphysis pubis, and no curvature is observed. This distinction, which was first made by Madame Boivin, is practically, however, of little or no value.

As I have stated, there has been a tendency, of late years, to exaggerate the importance of this displacement. I am the more disposed to insist on the opinions which I entertain on this subject, as several recent writers, in their attempts to elucidate the subject, have published such singularly erroneous statements respecting retroversion of the uterus and its symptoms, that I feel called upon to enter my protest against doctrines calculated greatly to mislead the profession. Thus, it has been repeatedly asserted that retroversion of the uterus, in reality a very common displacement, frequently, if not generally, gives rise to all the local, functional, and general symptoms and reactions which I have described as characterizing inflammatory affections of the uterus, to engorgement and ulceration of the uterine neck, to chronic inflammation of the ovaries, sterility, &c. &c. These assertions are stated to be founded on clinical facts; but I firmly believe that they are, to a great extent, deduced from facts misunderstood and misinterpreted.

Retroversion of the uterus is really of common occurrence; and it is impossible that it should be otherwise, when we reflect how slight is the support afforded to the uterus by its ligaments and the surrounding organs, and that its continuing in its normal position depends almost entirely on its remaining free from local disease of any description. Whenever the body of the uterus is increased in one particular region, it has a tendency to gravitate in that direction, and more especially if the partial increase in size and weight takes place, as usually occurs, in the fundus, or posterior wall. If the uterus increases in its totality, as in pregnancy, or when a tumor is developed in it centrally, its capability of remaining poised in the natural position seems, generally speaking, to be retained, and thus it is that the uterus gradually enlarges in pregnancy without being displaced, and that retroversion is then rare.

There are, however, many causes which tend morbidly to increase the size and weight of one region only, and especially of the posterior wall and fundus of the uterus, and which thus occasion retroversion. The uterus, which only weighs ten or twelve drachms in the unin-

pregnated state, weighs two pounds after parturition, and has to be reduced to its normal state by absorption. The process of absorption may take place imperfectly, and leave the entire uterus, or the posterior wall or fundus of the uterus, enlarged. This not unfrequently occurs when parturition has been followed by uterine inflammation. Local induration and enlargement may also remain in this region as the result of an accidental attack of acute metritis; or inflammatory hypertrophy may extend from the cervix to the posterior wall of the uterus, owing to the anatomical continuity of tissue, which I have elsewhere noticed. In all these cases, in which inflammation is the cause of the uterine enlargement and of the subsequent retroversion, there may be actual inflammation going on when the retroversion is discovered, or the inflammation may have subsided, leaving only congestion and hypertrophy behind.

Retroversion may also occur from the temporary existence of inflammatory enlargement, and remain when that enlargement has subsided or been cured, owing to the uterus having contracted adhesions, or to its having taken the bend, as it were, and not being able to resume a normal direction. The size and weight of the posterior region of the uterus may likewise be increased, and retroversion occasioned, by the development of fibrous growths of variable size. Dr. Simpson believes that the healthy womb may be retroverted likewise, owing to the partial yielding and giving way of those parts of the "pelvic fascia that unite the back part of the uterus to the rectum and pelvic cavity behind."

Retroversion of the uterus is easily detected by one who is accustomed to the examination of the uterine organs. It is only, however, by a digital examination that the displacement of the uterus can be ascertained, the speculum giving no information, and not being, consequently, required. On passing the finger up to the superior extremity of the vagina, the cervix is found either in its usual position or anteverted, but on pushing back the vaginal cul-de-sac between the cervix and the rectum—which may be done, as we have seen, to a considerable extent—instead of feeling a smooth plane surface, constituted by the posterior wall of the uterus in its normal position, the finger meets with a rounded globular tumor, formed by the retroverted uterus, lying on the rectum, which limits its range. The continuity between this tumor and the cervix is generally evident to the touch, but when the angle is very great it may be difficult to discern it. In such cases, the valuable sound of Dr. Simpson becomes of great service. By passing into the cervical cavity and into the uterus, if possible, we at once find that the tumor felt by the finger is really the uterus, the entire tumor being displaced by the sound. An examination per rectum may contribute to throw light on the case, as the finger can generally reach a higher point by the bowel than by the vagina; the globular tumor of the retroverted uterus being thus distinctly felt from the bowel.

The uterine sound affords an easy means of distinguishing retrover-



sion of the uterus from ovarian tumors, which are apt, in their early stage, to fall between the rectum and vagina, and thus to simulate retroversion. Retroversion of the uterus may be confounded with stricture of the rectum, with pelvic abscess, with the retroversion of pregnancy, and with extra-uterine conception.

Retroversion is not unfrequently mistaken for stricture of the rectum. I have met with several instances of the kind, in which the patients were long treated by dilatation. Such an error can, however, only be made by a surgeon who exclusively directs his attention to the rectum, and omits to examine the state of the uterine organs.

Retroversion is less frequently mistaken for pelvic abscess; one reason being, the slight attention that the latter disease has hitherto attracted. I have now, however, under my care, a young married lady, suffering from retroversion consequent upon inflammatory enlargement of the posterior wall of the uterus, following parturition, who was pronounced by an authority in uterine diseases, to be suffering under pelvic abscess. Indeed, it was debated whether the abscess should not be opened, although I am at a loss to conceive how such a step could have been even contemplated. I saw the young lady a few days afterwards, and could find no trace whatever of the existence, present or past, of pelvic inflammation and abscess. There was the globular tumefaction of retroversion lying on the rectum, and nothing else, the pelvic cavity being everywhere perfectly free. In inflammation and abscess of the lateral ligaments, the indurated tumor always exists at the sides of the uterus. It may pass posteriorly, but it is then only by extension from its original seat on the side of the uterus, where its presence is indicated by the symptoms which I have elsewhere pointed out.

The retroversion of pregnancy is seldom discovered until the latter has advanced beyond the third month, when the volume of the uterus increasing, the cervix begins to press on the neck of the bladder, and to impede the escape of the urine. It may, however, exist much earlier: I have recognized it at the seventh week in a patient whom I had treated for retroversion in a previous pregnancy under circumstances which rendered the nature of the uterine enlargement rather obscure.<sup>1</sup> She was under treatment for ulceration of the cervix, when the first retroversion occurred, and subsequently miscarried. Soon after the disease of the cervix was cured, she again became pregnant, and on my examining her, at her own request, at the end of the seventh week, to see if she remained well, I found the uterus completely retroverted, and lying on the rectum. The patient was not herself conscious of any change in the position of the uterus having taken place, and was perfectly free from all uterine symptoms. This I have found to be the case in the first stage of retroversion during pregnancy. The pressure of the uterus on the rectum does not seem to be attended with any great uneasiness, the patient merely experiencing, at the utmost, slight

<sup>1</sup> This case was published in *The Lancet* of July 25, 1846.

weight and bearing-down. Generally speaking, therefore, she only complains when the uterus is developed to such an extent as seriously to interfere with the escape of the feces, or when the anteverted cervix reaches, and by its pressure closes, the neck of the bladder.

I may here mention that numerous cases similar to the above have led me to the belief that retroversion, during the early stages of pregnancy, is generally connected with previously-existing retroversion in the non-pregnant state. The retroverted uterus becomes pregnant, and when the pregnancy has advanced sufficiently far for the pressure to give rise to decided symptoms, it is recognized, not before. One case I particularly remember, that of a young lady whom I attended for uterine inflammation before marriage. She got well, but the uterus remained slightly retroverted. I attended her subsequently in three pregnancies, and in each, about the fourteenth week, serious symptoms supervened from retroversion, threatening the pregnancy. After each confinement, the uterus reverted to its usual slightly retroverted state.

Retroversion from the presence of a fibrous tumor in the posterior wall of the uterus is not an unfrequent occurrence, and the pressure on the rectum which then takes place seems also to be generally unattended by any marked symptoms of local discomfort, the uterus often attaining a considerable size, owing to the development of the morbid growth, before the patient makes any complaint. When she does, it is generally because the menses are disordered, and have become more abundant and more frequent. When this symptom is not present, it is frequently only after the uterus has righted itself, and ascended into the abdominal cavity, modifying the outward size of the abdomen, that medical assistance is required.

These facts throw considerable light on the symptoms of retroversion of the uterus; showing, as they do, that under the influence of pregnancy or tumors, *the uterus may be retroverted to such an extent as to exercise considerable pressure on the rectum, without there being any local or general symptoms*, and that when any indications of the displacement do exist, they are confined to the existence of pelvic weight, dragging, and bearing-down, of a more or less decided character.

Experience has led me to precisely the same conclusion with reference to retroversion existing independently of pregnancy or uterine tumors. I find that in the absence of acute or chronic disease of the uterus, retroversion, whatever its cause, is a displacement to which the pelvic organs gradually get accustomed, and which occasions very little uneasiness or discomfort. I have attended a very considerable number of females in whom retroversion of the uterus existed as one of the elements of the disease when they first consulted me, and who, although they still retain the displacement, are now well, and completely free from all uterine symptoms, the inflammatory disease of the cervix, of its cavity, or of the body of the uterus, alone having been treated.

In some few of the cases which I have seen, the retroversion of the

uterus has evidently been, or is still, a source of great distress. But in the females thus suffering, there is the most irrefragable proof of the continued existence of chronic inflammatory action in the posterior wall of the uterus, which is painful, tumefied, and knotty to the touch. In these patients, the retroversion is a painful complication and symptom of the disease, which I have described at length, in the first part of this work, as partial chronic metritis. Any mechanical attempt to restore the womb to its natural position is attended with the most agonizing pain, and with nausea, carried even to absolute sickness. The uterus appears, in this class of cases, to contract adhesions which firmly connect it to the rectum. For further details on the treatment of this form of displacement, I must refer the reader to the section on the treatment of Chronic Metritis.

It will be perceived, by the above details, that, in my opinion, retroversion of the uterus, like retroversion of the cervix, is in the great majority of cases merely a symptom of enlargement of the uterus, and that I almost entirely repudiate the symptomatology of recent writers on the subject. I think that in both forms of uterine deviation the great error has been committed of attributing to displacement the symptoms of the inflammatory diseases which accompany and cause it.

#### LATERO-VERSIONS OF THE UTERUS.

The latero-versions which are not occasioned by adhesions, the result of pelvic abscesses, peritonitis, &c., are, I believe, nearly always congenital. In some women, the healthy, normal uterus lies diagonally in the pelvis, the cervix being directed to the groin, and the fundus towards the ilium. This congenital deviation is generally observed from right to left—that is, the uterus lies so that the cervix is directed towards the left groin. As is observed elsewhere (page 25), “most of the lateral deviations of the uterus described by pathologists are merely exaggerations in a diseased and hypertrophied organ of this natural position or direction.” M. Huguier, I may mention, attributes congenital latero-version to congenital shortness of one of the round ligaments.

#### RECAPITULATION AND TREATMENT.

It is of the greatest possible importance that the real value of the uterine displacements which we have just examined should be correctly represented and viewed. Were the mechanical doctrines which appear to treat the uterus as a joint, capable of being dislocated backwards and forwards, to the right and to the left to be generally adopted, there would be no limit to the suffering that would be inflicted on females, through the pernicious application of mechanical principles to the treatment of uterine disease.

Such being the case, I purpose briefly to recapitulate the principal reasons which have led me to the conclusion that these views are



erroneous, that the displacement is, on the contrary, in most instances, merely an accessory result of various morbid conditions, and that it does not require, generally speaking, actual treatment of any kind. These reasons may be divided into physiological, pathological, and therapeutical.

*Physiologically*, we have seen that the uterus bears pressure and displacement, when perfectly healthy, without pain or inconvenience. We have seen also, that in the married state the neck of the uterus is very frequently mechanically retroverted, thrust on the rectum, into the sacral cavity—the body of the uterus being, at the same time, anteverted—and yet that all goes on normally, without either distress or discomfort being experienced. We have seen that slight anteflexion, or anteversion, is a natural condition during life, and that very decided flexions of the uterus may exist congenitally, or be produced by accidental causes, such as violent efforts, habitual rectal constipation, or even menstruation, and remain for a time or for life, without producing any morbid symptoms. Such being the case, on what reasonable grounds can we attribute to a slight flexion or to a slight displacement of the uterus the various symptoms of uterine suffering that are presented by a female in whom one or the other coexists with inflammatory lesions? Is it sound logic—is it rational, so to reason? Is it not much more consistent with physiological observation and common sense, to attribute the uterine and general disturbance to the inflammation, and to consider the displacement as the epiphenomenon—as the secondary, comparatively unimportant, element? And if this reasoning applies to slight displacements, does it not also apply, by extension, although in a minor degree, to the more decided uterine displacements when connected with inflammatory lesions?

*Pathologically*, there are many valid reasons for considering moderate displacement of the uterus a phenomenon of secondary, and not of primary importance, in the cases of uterine suffering in which it is observed. The inflamed uterus, instead of bearing, without inconvenience, as the healthy uterus does, pressure and displacement, often becomes extremely tender, and, like the inflamed finger, suffers not only from pressure, but from mere contact. Thus, even when there is no deviation or displacement of any kind, we frequently find that females who are laboring under slight uterine inflammation, complain greatly of weight, heaviness, and bearing-down, and are unable to stand or walk with ease. The mere physiological weight of the inflamed uterus or cervix uteri, its mere contact with, and pressure against, the surrounding organs when in the erect position, becomes all but unbearable, and the recumbent position is sought with eagerness. Why, therefore, should we attribute uterine suffering to displacement only, or even principally, if, on the one hand, we constantly find all the symptoms—local, functional, and general—that characterize such suffering existing in cases where there are inflammatory lesions only, without either deviation or displacement; whilst on the

other hand, mere displacement unattended with inflammatory disease fails to produce these symptoms?

*Therapeutically*, the secondary nature and importance of uterine displacements generally, when not carried to an extreme degree, may be undeniably proved by the results of practical experience. For very many years I have at first all but completely ignored, as far as direct treatment is concerned, the existence of displacement in the numerous cases of uterine ailment which I have been called upon to treat. Looking upon the displacement as a mere congenital, physiological, or pathological concomitant of the varied morbid conditions which I all but invariably find to exist when uterine suffering is present; or considering it to be the direct result of the enlargement of the body or neck of the uterus, inflammatory or other, I have generally looked upon it as a mere symptom, and acted on this view. Thus, as a rule, I have thrown aside pessaries, bandages, and all artificial or mechanical agencies for the sustentation or straightening of the prolapsed and deviated uterus; accepting these conditions, and the distress they may occasion, as symptoms not in themselves requiring any particular treatment beyond partial rest. My great aim has been to remove what I consider the cause of the pathological prolapsus, retroversion, or anteversion; be that cause relaxation or disease of the vagina, or uterine ligaments, congestion, induration and hypertrophy, or passive enlargement, either of the body or neck of the uterus.

I find that when these morbid conditions can be thoroughly and completely removed by treatment, and when time has been allowed to Nature to restore the integrity and functional activity of the recently diseased organs, one of two things occurs—either the displacement ceases—the uterus ascending to its natural position if prolapsed, and returning to its normal intra-pelvic situation if retroverted or anteverted—or it does not. In either case, however, in the immense majority of instances, the patient is perfectly freed from pain, or even discomfort, and ceases to complain of the symptoms of uterine suffering.

When the uterus returns to its physiological position as a result of the removal of the morbid condition which produced the displacement, the subsidence of pain and discomfort is a fact which may be explained either by appealing to the displacement, or to the inflammatory lesions which accompanied it. This alternative, however, is no longer admissible when the displacement—prolapsus, anteversion, or retroversion—remains after the removal of the inflammatory lesions; all pain and discomfort at the same time disappearing; and this I am constantly witnessing.

I speak within very reasonable limits when I say that scores and scores of my former patients, who had for years suffered from uterine ailment before they were treated, are now living like other people, perfectly free from inconvenience of any kind, walking, standing, running, and going through all the ordinary ordeals of life, *although the uterus has remained displaced*. It has either remained lower than normal, or has kept in anteversion or retroversion, and in some to a

considerable extent. These women are, however, otherwise sound, free from any inflammatory lesion, and the displacement consequently gives them no more trouble than do the congenital and physiological displacements described above.

Thus taught, thus enlightened by anatomical and physiological data, and by therapeutical experience, when women who are wearing bandages, pessaries, &c., for displacements apply to me, I commence by removing them—*temporarily*, as I tell the patients. I then study minutely the state of the uterine organs, and generally find a very tangible cause for this painful displacement in the existence of some of the diseased conditions which I have enumerated. These I make it my object to remove, at the same time carefully regulating the general health, treating all local complications of bladder, bowels, &c., and enjoining partial rest and repose. I tell the patients to bear the annoyance and pain occasioned by the displacement as a temporary symptom of their disease, as they would bear the pain and discomfort of a sprained ankle or of a broken leg. All disease removed as far as possible, I ask for time—for three, six, or twelve months passed at home under general hygienic and dietetic discipline, in order that Nature may be enabled to come to the patient's assistance, to fine down swelling, and to restore healthy tone and action. That period passed, if the displacement still persists and still proves a source of discomfort, I myself am ready to sanction the return to the bandages and pessaries. Not one out of fifty, however, of my patients has ever occasion to resume these mechanical means of treatment when they have gone through the above ordeal. The necessity ceases with the diseased condition that occasioned it, and the bandages, abdominal and other, as also the pessaries, are all but invariably thrown aside for ever.

In the preceding remarks I have purposely excepted severe cases of displacement. There are cases of prolapsus or procidentia uteri, in which all the means of sustentation which the uterus naturally presents have been so strained and weakened, and in which the vaginal outlet is so loose and open, that the uterus will fall when the patient is in the erect position, and no treatment can restore the healthy tone of the parts involved so as to admit of the uterus being retained *in situ*. When this is the case, like other practitioners, I resort to mechanical agencies, but principally to extra-vulvar pressure and support. All intra-vaginal pessaries, in my experience, give rise to irritation, and are consequently objectionable, and to be dispensed with, if possible. Complete procidentia, when not the result of hypertrophic elongation of the cervix is principally observed in the lower classes, and is generally occasioned by their being up too soon after their confinements, when the uterus is too heavy.

Retroversion, when extreme, and attended with considerable non-reducible enlargement of the uterus, is also a most unmanageable form of ailment, and must likewise be excepted from the above remarks. It may remain as a serious morbid condition when all in-



flammatory disease has been removed, blocking up the rectum, and occasioning considerable distress by pressure, as does retroversion in pregnancy, when the displaced uterus has attained a certain size. The mention of this intractable morbid condition leads me to the consideration of Dr. Simpson's fixed intra-uterine stem pessary.

Dr. Simpson himself admits (*Dublin Quarterly Journal*, vol v. 1848, p. 394), whilst laying down rules for the treatment of retroversion, that "the restoration of the uterus temporarily from day to day, with the bougie is insufficient;" adding, that some more permanent means of keeping the organ replaced and retained, are necessary. These means Dr. Simpson believes he has found in a double stem pessary, one part of which is introduced into the uterine cavity, whilst the other rests externally on the anterior part of the pubis. He states that he has used this pessary extensively, and with very beneficial results.

Holding the views above enunciated, my readers will at once understand that I see no occasion whatever for the use, either of the stem pessary or of any other, in the more ordinary cases of retroversion and anteversion. Believing that these displacements are often met with as mere temporary results of removable morbid conditions, or that they are either physiological conditions, or non-important traces—remains—of past pathological states, why should I torment my patients with mechanical remedies, the presence of which is often attended with suffering and accidents, and occasionally with dangerous, or even fatal consequences? In the more severe forms of retroversion, however, to which allusion has just been made, I would gladly avail myself of the stem pessary, other means failing, had I any confidence in its efficacy, and were I convinced that its use was free from danger. I have seldom, however, resorted to it, because I have reason, even from my own limited experience, to believe it to be inefficacious in such cases, the displacement returning as soon as it is removed; and because the experience of others shows that it is a dangerous remedy; especially, I should say, in this very class of cases, in which the strain on the intra-uterine extremity must be very great. I can quite understand that this uterine pessary may be worn without any great pain or inconvenience, when the uterus, the cervix, and its cavity, are free from inflammatory disease; but when there is inflammation, it must irritate the parts, and do mischief; moreover, fatal cases have occurred in England, and in Paris seven deaths from the use of this pessary have been published—the one of M. Amussat, in 1826, and six recent cases. Of the latter, three have taken place in the practice of M. Valleix—two from acute peritonitis, and one from secondary pelvic abscess; one in that of M. Nelaton, one in that of M. Maisonneuve, and one in that of M. Aran. The three last were also cases of acute peritonitis. The discussion at the Académie de Médecine on uterine displacements, and on their treatment by the intra-uterine pessary, originated in the communication to the Academy of two of these fatal cases.

The above remarks, however, it must be remembered, do not apply to the bulb ended metallic dilators which Dr. Simpson has introduced and recommended for the dilatation of the cervical canal. I have very often used them, and believe them to be free from risk of any kind, if prudently and carefully employed. Not being fixed, and moving with the uterus as they do, there is no strain or pressure on the walls of the uterine cavities; especially when, as I have proposed, they are slightly curved, so as to adapt themselves to the natural curve of the cervical canal.

I have always treated the uterine cavity with great respect, owing partly, no doubt, to a painful lesson which I received long ago, whilst house-surgeon to M. Jobert de Lamballe at the Hôpital St. Louis. A fine young woman, twenty-six years of age, died under my charge from acute metro-peritonitis, the result of an injection into the uterine cavity. She was suffering from enlargement of the womb, and it was only discovered after death that the cause was the presence of a small fibrous tumor. The os internum being thereby opened, the injection penetrated freely into the uterus, and caused the inflammation which rapidly destroyed her. When, also, I began to use the uterine sound, at Dr. Simpson's suggestion, I soon found that as long as it occupied only the cervical canal there was usually no pain; but that as soon as it passed the os internum, and touched the uterine mucous membrane, there was always pain, sometimes faintness, and often a discharge of blood. These facts, added to the results of my own experience, have contributed to make me very cautious in the experimental use of the fixed stem pessary. Nor do I regret that it has been so, seeing the fatal results which have recently attended the practice of the Paris surgeons.

With their experience before me, and the knowledge that other fatal cases have occurred in England, I believe that henceforth I shall be even less disposed than formerly to adopt the intra-uterine method of treating retroversion of the uterus. It is fortunate, therefore, for me that the experience of many years has led to the conclusions embodied in the course of this chapter—viz.,

That uterine displacements, in the immense majority of cases, require no special mechanical treatment, provided the morbid conditions to which they owe their origin be recognized and remedied; that in those extreme cases of anteversion and retroversion in which it really would be desirable to strengthen the uterus by mechanical means, the intra-uterine pessary, when borne, is of but little, if of any use, as the displacement usually returns as soon as it is extracted; and that in complete prolapsus, vulvar bandages afford the support the easiest borne, and the most efficacious; combined occasionally with an abdominal bandage, with a view to take off intestinal pressure.

As I have already stated (p. 87), the pathological history of procidentia uteri, or complete prolapsus of the uterus, has been completely transformed by the valuable researches and discoveries of M. Huguier, as contained in his recently published *Mémoire*. The pathological

results at which he has arrived are so opposed to existing views that had I not the most implicit and entire reliance on M. Huguier's accuracy and scientific truthfulness, I should have hesitated to admit them as the expression of facts—at least, until I had myself verified their correctness. This I have not had the opportunity of doing since I became acquainted with his work, but I believe that any scientific statement made by M. Huguier may be accepted at once as a fact, and do not, therefore, hesitate to admit and to make known his views.

It would appear that, in the great majority of cases in which the uterus is supposed to be entirely prolapsed—a tumor, four, five, or six inches in length, appearing outside the vulva, and presenting at its lower extremity the orifice of the cervix uteri—there is no uterine prolapsus at all, the uterus remaining in the pelvic cavity, all but in its normal position. The actual disease is hypertrophic elongation of the supra-vaginal portion of the cervix, and the uterus is, generally speaking, of normal size, as well as in its normal position. The cervix may be elongated by several inches, between the insertion of the vagina and the os internum, whilst the sub-vaginal cervical region and the body of the uterus are seldom elongated at all, although occasionally hypertrophied.

This tendency of the upper region of the cervix to become hypertrophied and elongated under certain obscure conditions of morbid vitality, illustrates peculiarly the tendency which all regions of the uterus have to become hypertrophied when stimulated by any cause. The prolapsed tumor is thus formed, not by the uterus, but by the elongated cervix, which in descending out of the uterine cavity carries with it—anteriorly, the portion of the bladder anatomically adherent to it; posteriorly, in many cases, a knuckle of the rectum; and in all, the vagino-rectal, peritoneal fold, or cul de sac. Thus we have in the tumor—anteriorly, the bladder, in the centre the elongated cervix, and posteriorly the vagino-rectal peritoneal fold, and sometimes a prolongation of the rectum itself. It is covered by the inverted vagina.

Although the extra-vaginal tumor known as *Procidentia Uteri* is thus generally, according to M. Huguier, merely an hypertrophied elongation of the cervix, along with the organs and tissues it drags down, as above described, in some exceptional cases it is really formed by a prolapsed uterus as generally supposed. M. Huguier, who has been investigating this subject for many years, has, however, only met with two cases of this description of real uterine procidentia, against sixty-two of hypertrophic elongations observed within the last fifteen years. He has found this pathological condition recognized and described as a singular and exceptional condition, on post-mortem examination, by various authors, Saviard, Morgagni, Dance, Cloquet, &c. None, however, had before M. Huguier recognized the connection between the condition thus brought to light in the dead, and the disease termed *procidentia uteri* in the living.

The diagnosis between real uterine prolapsus and cervical hyper-



trophic elongation, rests principally on the use of the uterine sound which led M. Huguier to his discovery. If the uterus is merely prolapsed, the sound passes the usual distance, two inches and a half, a little more if there is hypertrophy of the body of the uterus, or of the sub-vaginal portion of the cervix. In elongation the sound passes five, six, seven, or even eight inches. Moreover, in real prolapsus, the body of the uterus may sometimes be traced or grasped by the hand in the upper region of the vaginal tumor. It may also be felt through the rectum, or a sound passed in the bladder, and directed backwards behind the pubis, may be felt by the finger in the rectum, above and behind the prolapsed uterus. Again, real prolapsus is generally easily reduced and remains reduced without pain. Where there is hypertrophic elongation, the reduction is difficult, and is followed by great pain. In the first case, the uterus slips into its natural position, and pain is consequently not felt. In the second, the uterus is already in the pelvic cavity, which it has never left, and the reduction of the tumor can only be effected by pushing up the uterus beyond its normal position, and curving or doubling up the elongated cervix. This strains the ligaments, and, through the unusual pressure, gives pain until the tumor again escapes from the vulva.

The above pathological facts certainly explain the constant failure in practice of the means employed to permanently maintain the tumor, after reduction, within the uterine cavity. As there is no room in the pelvic cavity for the hypertrophied and elongated cervix, such cases must be incurable. The disease becomes an infirmity which can only be alleviated and rendered bearable by suspensory vulvular bandages combined with rest. To those who cannot rest, whose occupations and position in life render work, and work in a standing position, inevitable, the disease is often a continued torture. The great displacement of a portion of the bladder and of the urethral orifice often occasions in them constant micturition, with a continual scattering of the urine over the tumor. Thence inflammation of its surface constantly followed up by large ulcerations, and aggravated by the constant friction of the tumor against the clothes. This latter cause also often produces large and deep ulcerations independently of the contact of urine. Such cases are not unfrequent, as the disease is principally observed among poor washerwomen and others who are obliged to stand to gain their living.

For these cases M. Huguier proposes a surgical operation which, although certainly of a serious character, has been so repeatedly performed by him with perfect success, and without any unfavorable symptom, that I think it must be accepted as the remedy for extreme cases. This operation is the conoid amputation of the cervix. I use the term conoid because the object of the operation is not merely to amputate the sub-vaginal portion of the cervix, but also to remove a considerable portion of the elongated neck above the insertion of the vagina. The difficulties and dangers of the operation consist in the presence of the peritoneal cul de sac posteriorly, and of the bladder

anteriorly, which form, as we have seen, a considerable portion of the tumor. M. Huguier gives the following instructions for the performance of the operation.

The patient is placed on her back at the edge of a bed, the knees supported and separated by assistants. A double tenaculum is firmly introduced into the posterior lip of the cervix, and by its means the entire tumor is drawn upwards and forwards by an assistant. The surgeon then introduces the forefinger of his left hand into the rectum previously cleared by medicine and injections. With this finger he ascertains, by pressure through the anterior wall of the bowel, the depth and position of the recto-vaginal peritoneal fold. The finger thus pushed into the peritoneal prolongation serves as a guide during this stage of the operation. The first incision is then made below this finger in the vaginal insertion on the cervix, constantly developed abnormally in these cases. It must be made about two-thirds of an inch or an inch from the cervical orifice, according to the degree of development of the sub-vaginal region of the cervix, so as to completely avoid the peritoneum, the great danger of the operation. The semi-circular incision is carried at first horizontally in the direction of the cervical canal, on account of the proximity of the peritoneum, until the peculiar resistant uterine tissue is reached. Then it is carried obliquely upwards, and when the canal of the cervix is thus reached, the first stage of the operation is over. If any arteries have been opened and not tied during the operation, they must be secured.

In the second stage the difficulty and danger is the bladder, not the peritoneum, which passes from the body of the uterus on to the bladder, too high to be endangered by the operation. A sound is introduced into the bladder, and passed downwards to the lowest part of the vesical cul de sac, which invariably forms the anterior part of the tumor. The presence of the point of the instrument raised forwards indicates the region where the vesical prolongation finishes. The tenaculum is introduced firmly into the anterior lip of the cervix, and depressed by an assistant whilst the surgeon commences the incision below the bladder, drawn forward by the sound, which is the chief guide. The first incision of the anterior vaginal wall should be made about half an inch below the point of the sound, and should be horizontal and superficial, reaching the posterior division. By successive slight incisions the anterior surface of the neck is reached below the bladder. The latter organ is then taken hold of by the surgeon, the sound being withdrawn, and the cellular adhesions which connect it with the anterior regions of the uterine neck are separated by a careful dissection. The two organs may be separated anteriorly, M. Huguier states, to the extent of from one to two inches without any fear of wounding the peritoneum. On the sides the incisions must not extend more than one inch and one-third, for fear of wounding the ureters. The arteries having been secured, the operator reaches the third stage.

The bladder being drawn and held upward, the anterior cervical

wall is divided obliquely upwards, as the posterior wall. The arteries divided should be secured as the operation proceeds, lest when the incision is completed the uterus should suddenly escape into the pelvis. To prevent this occurring, a tenaculum must be inserted into the posterior lip of the wound. The parts thus removed present a cone, the base of which corresponds to the lower extremity of the cervix, the apex to the wound. The tissue of the cervix is so very retractile that ligatures applied in the ordinary way constantly slip off. M. Huguier therefore advises a strong curved pin with a piece of thread tied to its head to be used. The ligature is tied round the tissues through which the pin passes, and the point is then cut off.

After the operation has been thus completed, the remaining portion of the cervix and the uterus are reduced, and a large piece of lint or cotton wool, covered with cerate, is introduced into the vagina as a dressing, a bandage applied over the vulva, and the patient is replaced in bed. This dressing is withdrawn the second or third day, and the vagina washed out with warm water, previous to its being renewed. The ligatures fall from the third to the fifth day. The wounds are generally healed by about the twentieth day, and the superior extremity of the vagina is found retracted circularly and presenting a small transversal orifice at the apex of a little cone which represents the cervix. The procidentia is then radically cured. The hypertrophied and elongated cervix continues to diminish in volume for several months after the operation.

M. Huguier attaches very great importance to the preliminary treatment of the patient to be operated on. Thus he is in the habit of establishing an acute inflammatory eruption on the inside of the thighs and on the lower abdominal region previous to operating. This artificial inflammation he also keeps up for several days afterwards, until all fear of peritonitis be past.

In cases where there is either cystocele or rectocele carried to such an extent as to lead to the fear of its persisting after the cure of the procidentia, M. Huguier recommends a very ingenious modification of the operations usually performed. In cystocele the urethra is artificially dilated with prepared sponge, so as to admit the index of the left hand. The finger being thus introduced is pushed against the region of the anterior wall of the vagina that forms the cystocele. With the right hand a long pin is passed through the wall, carried downwards a quarter of an inch in the cellular tissues between the vagina and bladder, guided by the finger which is in the bladder. It is then brought out into the vagina again, curved, and a ligature passed over it. Thus a circular piece of the vaginal wall is destroyed and a great retraction of this region of the vagina is produced without any risk of injuring the bladder. The same operation can be performed on the posterior or rectal wall of the vagina, the guide being the finger introduced into the rectum. Here the position of the peritoneal cul de sac must be borne in mind, as a guide to the operator.

The results of M. Huguier's practice appear certainly to be most encouraging. He has performed the operation with complete success,



he states, in fourteen cases. His colleague, M. Chassaignac, has also operated in six cases with an equally satisfactory result. Thus in twenty operations there have been no serious accidents, neither opening of the bladder anteriorly, nor of the peritoneum posteriorly, no uncontrollable hemorrhage and no fatal metritis or peritonitis. Such results show that although the operation is a serious one, surrounded with dangers, yet in skilful, cautious hands it is as safe as any important operation, and more so than many. At the same time it is an operation that cures an otherwise incurable disease, and must therefore be accepted for exceptional cases, if the experience of other surgeons corroborates that of M. Huguier and of M. Chassaignac. It is this consideration that has induced me to reproduce the above operative details. For further particulars I must refer to M. Huguier's "Mémoire," which is a model of minute and careful research, and all but exhausts the subject. The illustrative plates which his work contains are both interesting and valuable as a guide to the operator.

The prolapsus of the bladder, which occasionally, as we have seen, complicates uterine prolapsus, and is often taken for it, is always difficult to treat and remedy. Sometimes it gives way to rest, to the removal of concomitant inflammatory disease, and to the persevering use of astringent vaginal injections, and of cold water. Very often, however, it resists these means, and it becomes necessary to have recourse to mechanical means of support—the globular, vulcanized Indian-rubber pessary, or the round or oval wooden disk or ring pessary. Pressure from the outside from the vulva is of but little use. When the vagina is not too much attenuated, I have known the modern operation of excising several folds of the anterior wall of the vagina, that which prolapses, attended with beneficial results; the cicatrization of the excisions giving the vaginal wall the necessary solidity and sustaining power. This operation is, however, often inapplicable from the general thinness, dilatation, and wash-leather want of power of the vaginal walls. In such cases M. Huguier's modification of it may be tried. When pessaries are resorted to, they should often be removed, and astringent or cold water injections used. In all cases the patient, in passing water, should herself reduce the prolapsed bladder, that the latter may be completely relieved.

The cases in which the perineum has been lacerated in childhood to a great extent are among those in which it is most difficult to remedy concomitant uterine displacement. This is more especially the case when the laceration has destroyed the entire perineum, and has even extended to and partly destroyed the sphincter ani. In such cases the tissues which close the lower pelvic outlet have lost all support, and the pelvic organs have an uncontrollable tendency to fall in the erect position. Much has been done of late years to remedy this painful condition by surgical measures, having for their object to renew the perineum. I must, however, refer to Mr. Baker Brown's second edition of his valuable work "On Surgical Diseases of Women," (1861) for full details on the subject. Mr. Baker Brown has done much to improve and increase our surgical resources in this direction.

## CHAPTER XV.

## HYSTERIA AND CHLOROSIS IN CONNECTION WITH UTERINE INFLAMMATION.

ALTHOUGH hysteria and chlorosis are not, properly speaking, uterine diseases, there is sufficient connection between them and the uterus to warrant a few special remarks on the subject.

Convulsive hysteria is a disease of the spino-cerebral nervous system, which may exist independently of any uterine lesion, or of any evident connection with the uterus or its functions. I, like others, have often thus observed it. At the same time it is a matter of universal observation, that it is very frequently occasioned by uterine disease. I have purposely used the term convulsive hysteria, because there is a great difference between hysteria existing as a disease, and characterized by convulsions, and the symptoms commonly called hysterical, but which are merely transient manifestations of nervous susceptibility. These slight nervous symptoms are very common in females debilitated by uterine disease; but they are also frequently met with, in both sexes, when the health is impaired, the strength much reduced, and the nervous system shaken.

That convulsive hysteria is not a mere functional disease of the womb, as formerly supposed, is I think, evident, from the mere inspection of the three hundred cases of uterine disease contained in the Appendix. Not more than one or two presented this form of disease; whereas, in other dispensary cases which I attended, and which are not reported, hysteria existed alone, independently of any uterine derangement. In the higher classes of life, uterine disease is more frequently complicated by hysteria, owing, no doubt, to the greater susceptibility of the nervous system.

Hysteria thus originating generally presents great intensity, and can only be cured by the removal of the uterine disease which occasions it, through its excito-motor reaction on the spinal cord. I have had under my care many women, especially young women, in whom severe ulcerative disease of the cervix has evidently brought on convulsive hysteria; in some the convulsions have been so violent as to be followed by partial paralysis. These cases, however, although so severe, are generally more amenable to treatment than those which occur from less tangible causes; the hysterical convulsions almost always ceasing when the neck of the uterus is restored to a state of integrity. The convulsions are generally, although not always, brought on by the exacerbation of the uterine pains which menstrua-

tion occasions. They are no doubt the result of reflex action, coming on with the exacerbation of local pain, and ceasing when it abates. Such is not the history of the convulsive attacks of an ordinary case of hysteria.

In connection with hysteria complicating uterine disease, I may here mention that it is principally in such cases that I have witnessed that well-known morbid perversion of the moral feelings which sometimes prompt young females to systematically deceive their medical attendants and those around them, even their dearest relatives, as to their symptoms and as to their actions. I have known most high principled and well brought up young females, who, in health, had a horror of deception or falsehood, systematically endeavor to mislead me. They have complained of sufferings and symptoms they had not, have thrown medicine away, pretending to all around that it was regularly taken, and have indulged in all kinds of perverse vagaries. Once restored to health they have been profoundly miserable at the recollection of their conduct, and have confessed it to me or to their relatives, imputing it to an insurmountable, unreasoning impulse, over which they had no control; and as such we must consider it. It is, in reality, a form of temporary insanity, the result of disease, and should not be presumed to indicate a want of proper moral and religious feeling. At the same time the possibility of such mental perversion existing in a usually well regulated female mind, as the temporary result of illness, ought to make the physician cautious how he accepts extraordinary statements. When anything occurs out of the ordinary course in the treatment of disease in young females, either as regards symptoms or the results of medication, deception may be *suspected*, and greater care, more careful investigation should be resorted to by the medical attendant. This may be easily accomplished, with a little tact, without wounding the feelings of the patient or her friends.

The connection between chlorosis and the uterus is much less marked than between hysteria and the uterus. Chlorosis has evidently nothing whatever to do with that organ. It is a disease of the blood, and of the functions of nutrition, and is characterized by decided anatomical characters, ascertainable by chemical and microscopic analysis of that fluid. The erroneous idea that it is connected with the uterus has originated solely in the fact that the menstrual secretion gradually diminishes, and finally ceases, in those who are affected by it. These changes in menstruation, however, are only the result of depraved nutrition, and of the anemic condition and low vitality of the patient, and occur in all diseases characterized by anemia and deficient nutrition. Thus, in tubercular consumption, as the anemia and emaciation increase, the menses diminish, generally disappearing entirely for months before death takes place. In chlorotic patients, with the exception of this gradual diminution of the menstrual secretion, there are no uterine symptoms of any description, and there is no evidence of any kind indicating that the uterus is involved. More-



over, the health generally rallies, and menstruation returns by the mere administration of iron—that is, by treating the disease of the blood irrespective of the uterus.

Although I am continually seeing and treating chlorotic females, both in public and in private practice, I only recollect meeting very exceptionally with inflammation and ulceration of the uterine neck in a female thus suffering. In one case, the patient, a young female, aged twenty-two, recently married, was in a confirmed state of chlorosis. As she presented all the symptoms of ulcerative inflammation, I examined her instrumentally, and found a well-marked ulceration of the neck of the uterus. The mucous membrane of the vulva and vagina was as blanched as the skin, and the ulceration was so pale, that I had some trouble in ascertaining its existence. As the skin regained its natural coloration under the administration of iron, the internal mucous membrane became of a natural hue, and the granulations of the ulcerated surface, assuming a florid character, became apparent. In this case the uterine inflammation probably existed antecedently to the development of the chlorotic cachexia.

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## CHAPTER XVI.

### POLYPI AND FIBROUS TUMORS OF THE UTERUS, AND THEIR CONNECTION WITH UTERINE INFLAMMATION.

THE great tendency of the mucous membrane covering the cervix and lining its cavity to take on inflammatory and ulcerative action, under the influence of any cause of irritation, is strongly illustrated by the fact that the various species of polypus, and of fibrous tumor of the uterus, are very frequently complicated by this form of disease. This important fact I pointed out in two papers in the *Lancet* (July 19th, 1845, and June 5th, 1847). Between the appearance of these two papers Dr. Montgomery, of Dublin, published in the *Dublin Quarterly Journal* a very interesting memoir, which fully corroborates and sustains my views on this subject, so far, at least, as they relate to uterine polypus.

The forms of uterine polypus most commonly met with, as is well known, are the fibrous and the vascular. Fibrous polypi are generally expelled from the cavity of the uterus, and are found lying in the vagina, connected with the body of the uterus by a pedicle, which passes through the cavity of the cervix. Vascular polypi mostly originate at, or within, the os uteri, or from some point of the cervical cavity. The contact of the pedicle and of the narrow extremity of a fibrous polypus lying on the expanded lips of the os uteri, appears often to create irritation, and eventually to produce inflammation and

ulceration. After extirpating fibrous polypi by excision or by ligature, I very frequently find the lips of the open os inflamed and extensively ulcerated, the ulceration being generally of a chronic character. The existence of inflammatory disease of the mucous membrane and of ulceration would no doubt be very frequently met with, by others as well as by myself, were the state of the neck of the uterus always carefully ascertained instrumentally, after the extirpation of polypi, before the patient was pronounced cured. This precaution, however, as far as I know, has never yet been considered necessary, or adopted, either in this country or abroad. The existence of a fibrous tumor developed in the substance of the uterus, apart from any local cause of irritation, is also frequently attended with the development of inflammation of the body of the uterus, either with or without cervical disease. Indeed, in a considerable proportion of the cases of fibrous growths developed in the substance of the uterus which I have met with for many years past, in unmarried as well as in married females, I have detected inflammatory disease of some region or other of the uterus. It would seem as if the increased vitality of the uterus, occasioned by its enlargement from the gradual development of the tumor, predisposes powerfully to inflammatory action. Whatever the theoretical explanation, the fact is certain, and is practically important.

When inflammatory disease of the uterus and of its neck complicates fibrous polypi, it must necessarily be one of the principal causes of the local pains, of the discharges, and of the sympathetic constitutional reactions that are so often observed in this disease. Moreover, as the inflammation remains after the extirpation of the polypus, the patient does not completely rally after the operation, as is expected, and the symptoms that it occasions, which were attributed to the polypus, remain, although in a mitigated degree, after the removal of the latter.

When uterine inflammation, generally chronic, complicates fibrous tumors existing in the body of the uterus, its presence not only gives rise to the symptoms, local and general, which have been described, but it tends to keep up a congested, irritable condition of the entire uterine system, highly favorable to the increase of the fibrous tumor—the development of the latter being necessarily promoted by any cause which adds to the vitality of the uterus. It is, therefore, very important that the uterus and its cervix should be restored to a healthy state, and I have always found the very greatest benefit follow the removal of any inflammatory affection of this description when existing.

The possible coexistence of chronic inflammation of the uterus and of a fibrous tumor developed in its tissue, renders the diagnosis of uterine fibrous growths occasionally very difficult. The uterus is enlarged and its cavity increased, and it is evidently the seat of chronic inflammation; but is this morbid condition the sole disease? have we merely to deal with chronic metritis? or is there also a

fibrous tumor coexisting? Sometimes it is only by the results of treatment that this question can be solved. If under appropriate treatment the enlarged uterus diminishes, melts, we may presume that the disease is merely chronic metritis. If, on the contrary, when the inflammation is subdued, the uterus remains enlarged—especially if menstruation exists hemorrhagically, and the enlargement is irregular—we may conclude that there is, probably, a fibrous tumor in existence. Singularly enough, some pathologists have published cases of the first description, the successful issue of which has led them to believe that they could by treatment resolve, absorb uterine fibrous growths—a most irrational conclusion. The cases on which this opinion was based were clearly cases of mere chronic inflammatory enlargement of the uterus.

In cases of difficult diagnosis a little assistance may be derived from the rather remarkable fact that fibrous growths of the uterus principally occur in unmarried and sterile females above thirty years of age. Comparatively few are observed in women who have borne children. It would seem as if nature retaliated on the virgin for the physiological inaction of the uterus, and often set up a morbid action instead of the absent physiological one. The structure of the uterus is physiologically fibro-muscular, which no doubt predisposes to the development of morbid fibrous growths in the sterile female. The development of this tissue into true muscle in pregnancy, the fatty transformation of the latter after parturition and its return to the normal state, no doubt exhaust the uterine vitality and protect the organ from the formation of morbid growths.

On the other hand, it is in women who have borne children that I have principally observed the various forms of cancerous disease of the uterus. In sterile females I have found malignant disease comparatively rare.

Inflammation of the neck of the uterus, and especially ulcerative inflammation, is the most common form under which inflammatory disease is observed. It is generally characterized by an open, expanded state of the os, hypertrophy of the cervix, and the presence of an ulceration on one or both lips, but more especially on the lower one. When inflammation accompanies intra-uterine fibrous growths, the os is usually but slightly open, the lips but slightly hypertrophied, and the ulceration small, scarcely spreading at all on the cervix itself.

The ulcerations which are found complicating extra-uterine fibrous polypi may, however, not be the result of the contact of the polypus with the adjoining mucous membrane; they may have existed before the expulsion of the polypus from the uterus, when the latter was merely a fibrous tumor of that organ. The following case illustrates this fact. A woman, forty-nine years of age, who still menstruated, but irregularly, had been under my care for some months as a dispensary patient for ulceration of the uterine neck. The disease appeared to have originated in a confinement seven or eight years previous.



From the first I noticed that the uterus was more voluminous than was normal, but in the absence of any peculiar symptom, did not attach much importance to the fact. The ulceration was nearly cured, and the uterine symptoms had become very much mitigated, when she was seized with expulsive uterine pains, which lasted several days; and on examining her subsequently, I found that a small fibrous polypus, the size of a pigeon's egg, had been expelled from the uterus, and was lying in the vagina. I tied the polypus, and the patient recovered rapidly. On examining her subsequently, I found the cervix still slightly ulcerated, just as I had seen it a few days previous to the expulsion of the polypus.

There is another form of uterine polypus, the vascular polypus, which is much more common than is generally supposed, and which is usually accompanied by inflammatory disease of the uterine neck. Vascular polypi are soft growths, varying in size from that of a pea to that of a filbert. They generally originate by a pedicle from the vicinity of the os, but may arise from any part of the cervical or uterine cavity. Their presence may be recognized by the touch, when they grow from the edge of the os, or when they have escaped from its cavity; but in many instances they lie imbedded in the cervical canal within the lips of the os uteri. When such is the case, the os is generally rather open, and this may be the only morbid condition that the finger can detect; unless the contour of the os be ulcerated, or the surface of the vascular growth protrude sufficiently to be felt. Under these circumstances, the finger detects, not only the patulous state of the os, which, as we have seen, characterizes inflammation of the os and of the cervical cavity, but also the soft velvety sensation which is afforded by an ulcerated surface, and by the protruded portion of the polypus.

The possibility of a small vascular polypus lying thus imbedded within the open os uteri is, therefore, an additional reason for using the speculum whenever this open state of the uteri is detected. By its means only can a polypus thus situated be recognized and removed. It is, however, of the utmost importance, that an instrument should be used which is capable of completely expanding and separating the lips of the uterus. This the ordinary-sized conical and circular specula fail in effecting. The bivalve or quadrivalve speculum should therefore be used, unless the parts are sufficiently lax to admit of the largest-sized conical one, which may sometimes be sufficient to open the cervix. This remark is more especially important when the lips are swollen and hypertrophied, as they then entirely conceal the os uteri, unless it be fully opened by the instrument which is used. In a remarkable case, related at page 388, a vascular growth of this description, which had escaped detection until the patient applied to me, although she had consulted many accoucheurs, was again overlooked by an experienced physician, who had been apprised of its existence by the patient herself, owing to his having used an instrument not adapted to the case.

These vascular polypi are more especially liable to be accompanied by inflammation and ulceration of the surrounding mucous structures,

along with more or less congestion and hypertrophy of the cervix and its lips. This is not only the case when the polypi lie external to the os, but also sometimes when they are imbedded within its lips. In the latter case, the ulcerated surface being sometimes within the cavity of the cervix, it is only after the extirpation of the polypus that the ulceration is discovered.

These small polypi are easily extirpated by a long pair of scissors, or crushed by means of the speculum forceps; but the patient is by no means cured when this has been effected. The presence of the polypus is merely an element in the case; of importance, inasmuch as it is probably, in most instances, the cause of the irritation and ulceration of the mucous surface, but having in itself little evil reaction over the system. The distressing uterine and general symptoms which usually exist, and direct the attention of the medical attendant and of the patient to the uterus, are the result of the local inflammatory disease secondarily produced, and can only be got rid of by its removal.

The importance of the facts above detailed respecting the connection between inflammation of the body and inflammation and ulceration of the neck of the uterus, and uterine tumors and polypi, is very great; and as they have a decided practical bearing on the treatment of these diseases, they deserve attention. In the cases in which the polypoid tumor can be removed, the patient is only half cured if extensive inflammatory mischief is allowed to remain; whilst in those in which the tumor is beyond the reach of instrumental means, the only chance we have of arresting its increase, and of restoring the patient to tolerable health, is our being able entirely to subdue all inflammatory action in the uterine system, thus bringing it to a state of quiescence.

When the inflammatory disease is limited to the body of the uterus, those means of treatment must be resorted to which we have seen are indicated in chronic metritis. When, as is most usually the case, it is the cervix alone that is the seat of complicating disease, the latter must be removed by the appropriate local treatment. If both the body and the neck of the uterus are diseased, both must be simultaneously treated.

The following cases are interesting illustrations of inflammatory ulceration of the neck of the uterus, under the circumstances above mentioned.

### CASE XIII.

*Fibrous Polypus of the Uterus adhering to the Neck of the Uterus; and complicated by extensive Inflammatory Ulceration of that region.*

On the 1st of August, 1844, I was consulted by Miss C—, aged thirty-four, for uterine hemorrhage, from which she had suffered many years. She had menstruated regularly until the age of twenty-seven, when she was seized with severe pains in the loins, and flooding, at each menstrual period. The duration of the menstrual flux increased from three to four days to eight or ten. She lost at each epoch large

clots of blood, and experienced great pains in the loins and hypogastrium. For some time past, indeed, the hemorrhage at each menstrual period had amounted, she said, to more than a washhand-basin-full of blood, and it often continued in the interval of menstruation. Her health had long been very bad, and although generally under medical treatment during the last few years, no local examination had been made, and no local disease had been suspected. Complexion exceedingly sallow, features bloated, tongue loaded, anorexia, loss of sleep, continued headache, cardialgia, palpitations, great general debility, legs œdematous, pulse quick and small, great pain in the loins and hypogastrium, sensation of weight in the pelvis when walking. On examining digitally, the hymen was found intact, but sufficiently dilatable to admit of examination. In the cavity of the vagina was a tumor about the size of a small egg, perfectly regular and smooth, pedunculated, and traceable to the orifice of the os uteri, from the right side of which it appeared to grow. The examination occasioned a considerable discharge of pure blood, devoid of all odor.

On the 17th, as a preliminary step, I divided the hymen by a crucial incision, slightly cauterizing, the next day, the edges of the incisions with the nitrate of silver to prevent their reunion.

On the 23d, the incisions having perfectly healed, I applied a ligature of waxed silk. The noose was carried on to the tumor several times, but each time on being tightened slipped off. This led to a more careful examination, when I ascertained that the polypus did not grow from the cervix, with which it appeared connected, but issuing from the cavity of the cervix, had become adherent to the right side of the os uteri. The adhesion preventing the ligature from reaching the stalk of the polypus, it was evidently impossible to apply it efficiently until the connection had been destroyed. This I attempted to effect by means of a pair of scissors, guided on the fore and middle fingers of the left hand. Owing, however, to the insufficient length of the scissors I only partially effected the division, and the remaining adhesions had to be broken down with the finger. There being still some little difficulty in applying the ligature, arising partly from the narrowness of the vagina, a speculum was introduced, and the polypus having been exposed, a noose, passed through a single branch of the canula, was carefully placed over it, and pushed on to the stalk by means of the forceps. The ligature was then tightened, and the hemorrhage, which had been considerable during the operation, immediately ceased. The ligature was tightened every morning until the fourth day, when it came away with the polypus. After the operation there was no further loss of blood.

A few days subsequent to the fall of the polypus, I examined the cervix uteri with the speculum, and found inflammatory ulceration existing, not only where the polypus had adhered to it, but over a great part of its surface; and injections and rest were prescribed, in the hope that it would heal spontaneously. Finding, on the contrary, ten days afterwards, that the ulceration had actually increased in



extent, I cauterized it with the nitrate of silver. The cauterization was repeated several times, and in about a month the cicatrization was complete.

#### CASE XIV.

##### *Fibrous Polypus of the Uterus, complicated by Inflammatory Ulceration of the Cervix.*

On the 1st of May, 1745, Mrs. D——, aged fifty, came from Somersetshire, by the advice of her medical attendant, to place herself under my care. During eight years she had suffered from uterine hemorrhage, the intensity of which had gradually increased. She had had several children, the last at the age of forty-two. The two following years she miscarried at three months. After the last miscarriage she was seized with flooding, which returned to such an extent at each menstrual period as greatly to debilitate her; sometimes even producing syncope. At the age of forty-five she ceased to lose blood at periodical periods, but since that time the hemorrhage had been nearly continual; seldom a day passing without more or less blood being lost. She has presented for some time all the symptoms of extreme anemia; the skin is sallow, the body emaciated; she suffers from palpitations, headache, want of sleep, and extreme debility; and a bellows-murmur is heard over the heart and along the arteries. The digestive functions do not, however, appear much disordered; the appetite is good, and she takes a great quantity of meat, wine, and porter, in order to keep up her strength. Complains of lumbar and hypogastric pains, and of a bearing-down sensation when walking. On examination per vaginam, a pedunculated tumor, as large as a goose's egg, was found situated in the vagina, issuing from the orifice of the os uteri. The examination occasioned a copious flow of blood. Ligature of the tumor was proposed, and gladly accepted, as she had been told that no operation was possible.

On the 3d, the bowels having been previously well relieved, I passed a whipcord ligature round the neck of the tumor with great ease. The hemorrhage during the process was, however, considerable; the blood evidently exuded from the entire surface of the tumor, which was of a florid red color, and was exposed by the mere separation of the labia.

11th.—The tumor escaped from the vagina whilst she was making water, the canula and ligature remaining. On exercising traction, I brought down the uterus, but did not bring away the ligature and canula. I was therefore obliged to untie the whipcord, and pull it through one of the branches of the latter.

17th.—Examined the os uteri with the speculum, and found a large ulcerated surface on the anterior and posterior lips. The anterior was much more voluminous than the inferior, and was the principal seat of the ulceration. There was no trace whatever of the pedicle of the tumor. Cauterized the ulceration with the nitrate of silver; ordered

injections with sulphate of zinc; sesquioxide of iron half a drachm a day, and a nourishing diet.

On the 25th, she was absolutely obliged to leave town for family reasons, although the ulceration was not healed. I ordered her to use the sulphate-of-zinc injections carefully for some weeks. The sallowness of complexion was already much modified, and she felt stronger than she had done for some time.

I subsequently saw her some years afterwards. She was then quite well and strong, and free from all uterine symptoms, and had been so, she told me, ever since a few months after the operation.

#### CASE XV.

##### *Inflammatory Ulceration of the Neck of the Uterus, complicating a Vascular Uterine Polypus.*

In May, 1846, I was requested to see, in consultation, a lady aged thirty-nine, who had been suffering for many years under obscure uterine disease. From the gentleman in attendance, and from the patient herself, I elicited the following details: Menstruated rather early in life, about twelve or thirteen; she enjoyed good health as a girl, although always rather delicate. At eighteen she went abroad, and settled in South America, in a tropical climate, where she married, and had two children within the first few years of her marriage. The labors were favorable, and were not followed by any untoward symptoms. About the age of twenty-five, the menses, which had previously only lasted four or five days, began to be more abundant and prolonged. This state of things became gradually more marked, the flow of blood often lasting from fourteen to twenty days, without, however, being excessively abundant, except during the first three or four. She also experienced severe and continued pain in the lower part of the back, and slight pain in the ovarian regions, especially the left, and had a white vaginal discharge. The uterus was examined per vaginam; the only lesions, however, to be detected, were slight hardness and tenderness of the cervix.

Every known means of arresting uterine hemorrhage were resorted to, but without avail. As the general health was rapidly giving way under the influence of the continued hemorrhage and uterine irritation, and as it was thought that a tropical climate might be the cause of the obstinate resistance of the morbid symptoms to all remedial agents, she was at length ordered home to Europe. She was then thirty-one years of age. The change of climate, however, brought no alleviation to the hemorrhage and local pains. The former continued to occur at each monthly period, the flow of blood sometimes continuing from one period to the other. During the eight years that had elapsed when I saw this lady since her return to this country, she had been almost continually under medical treatment. The uterus was always examined digitally by the various practitioners who attended her, but never with the speculum, and different opinions had

been given. All who were consulted, however, agreed in considering the uterus inflamed, and in recommending antiphlogistic treatment. In consequence of the opinions thus entertained she was cupped in the loins some score times, and was quite drained by leeches applied to the hypogastrium and vulva. The antiphlogistic measures thus pursued *à outrance* appeared, however, only still further to debilitate the general health, which became more and more affected. At one time, the solid nitrate of silver was, for six weeks, applied daily to the cervix uteri, through a tube, without a speculum being used. This treatment appeared to lessen the duration and amount of the hemorrhage for a few months, as had occasionally been the case with other means, but it then returned as before. A few years previous, the medical gentleman who had attended the lady abroad, returned to England, and on examining digitally, found that the cervix, which was hard and closed when he last saw her, had become open and soft. This change in the state of the cervix had evidently occurred recently, as it had been noticed by the practitioner in attendance, who told the patient he was afraid that it was a forerunner of cancerous degeneration. Her medical friend, by whom I was called in, said that he then thought the change was the result of the excessive loss of blood under which she had suffered, both from the treatment and the disease.

The complexion presented the pale, rather sallow hue which we find in the ulcerative stage of uterine cancer; but this cachectic hue is also met with in chronic inflammation of the uterus, and in obstinate flooding, as well as in cancerous disease. On examining digitally, I found the vagina lax, and very sensitive; the cervix low, very retroverted, voluminous, and indurated, but perfectly smooth and even; the os so open as freely to admit two-thirds of the first phalanx of the index finger. The kind of small cavity into which the finger thus penetrated was soft and fungous to the touch; the uterus was rather voluminous and sensitive to pressure, but presented no nodosities or inequalities. The hypertrophied state of the cervix, and the patent velvety condition of the os, showing at once that inflammation of the cervix and ulceration around and in the os existed, I explained the necessity of an instrumental examination. This was at once assented to, and with a large bivalve speculum, and in a good light, I raised the retroverted cervix, and expanding the blades to their fullest extent, brought the cervix and open os fairly into view. I then at once saw what was the cause of the present uterine sufferings of the patient.

Between the lips of the enlarged cervix was a small vascular polypus, the size of a hazelnut, occupying the cavity of the os, and merely showing its anterior extremity on the blades of the bivalve speculum being expanded. If they were allowed to approximate even partially, the hypertrophied lips of the cervix closed over the os so as to conceal it and the contained polypus. I ascertained, by means of the uterine probe, that the polypus proceeded from a cavity of the neck above an inch from the exterior. It was connected with the point from which it originated by a long pedicle. The cavity of the uterine



neck was much dilated, and all that portion of it that was accessible to the eye was ulcerated. The ulceration occupied the entire contour of the os for a few lines external to the point reached by the head of the polypus. The latter was very red and vascular, and so soft as to pit deeply under the slightest pressure. The circumstance of its being thus imbedded, as it were, in the cavity of the os, and its softness, accounted at once for its not being perceptible to the touch. The fingers, on examining the uterine neck, merely felt a small, soft, fungous cavity, representing the apex only of the polypus, and the surrounding ulcerated tissues. The cervix itself was much enlarged, red, and inflamed, and so much retroverted as to be brought into view with some difficulty. It was not without trouble that I succeeded in persuading the patient, even with the corroborative evidence of her medical friend, that she really was suffering from the presence of a small uterine tumor, which had probably been there for many years, and, along with the inflammatory ulcerative disease of the cervix, had occasioned the hemorrhages and uterine inflammation by which her life had been so long embittered. Having family matters to arrange, it was determined that the extirpation of the small polypus should be deferred for a few weeks, and that she should then return to town and place herself under my care.

Some months elapsed before I again saw this lady. It appears that after leaving town, her belief in the existence of a hitherto undiscovered cause for her sufferings became staggered, and she began to think that it was next to impossible that the many experienced practitioners previously consulted could be wrong. The persistence of all the symptoms, however, again drove her to town towards autumn, and she determined to seek for confirmation of my opinion. She accordingly consulted an eminent accoucheur, told him that she had been suffering many years from uterine hemorrhage—that she had been treated for inflammation, without beneficial results—that she fancied there might be more than had been discovered by her previous attendants—some tumor or ulceration; and that she wished him to examine her with the speculum. This was accordingly done. A so-called careful speculum examination was made, and the patient was told that she had neither tumor nor ulceration, and that her disease was merely retroversion of the uterus. The uterine probe was introduced into the cervix, and the uterus brought, as it was stated, into its right place. She was likewise told, that if this operation was repeated, at proper intervals, for a sufficient length of time, the vitiated direction of the organ would be remedied and that she would recover her health.

A few days afterwards I was sent for, and frankly acquainted with what had occurred, the lady stating that she had no confidence in the opinion last given, because the examination was made in such a manner as to convince her that but little information could have been obtained. She was examined, it appears, on her side, in the usual obstetric position, on a sofa away from the window, a conical or

cylindrical speculum being used, and artificial light resorted to. I had examined her, as I generally do, reclining on the back, in a strong natural light, opposite a window. I was so much surprised to hear that a careful examination had been made by an apparently competent person, and no tumor found, that I concluded the polypus had fallen off, by ulceration of the pedicle—a circumstance which I have known to occur. To my astonishment, however, on separating the blades of the speculum, I found the small vascular tumor lying in the os, surrounded by a ring of ulceration, just as before. It became evident, therefore, that by the use of the conical or cylindrical speculum, the hypertrophied lips of the cervix had been so approximated as to cover the os uteri and conceal the polypus and ulcerated surface.

By means of a pair of speculum forceps, with a small serrated extremity, I broke down, and brought away, by torsion, the small tumor, and the greater part of its pedicle. A few drops only of blood were lost. I subsequently cauterized the ulcerated surface, which appeared to extend to the entire depth and circumference of the cavity of the uterine neck.

From this time the case resolved itself into one of simple inflammation and hypertrophy of the cervix, along with deep-seated ulceration; and was treated by the means which I usually employ—cauterization at variable intervals, emollient or astringent injections, hip-baths, rest in the recumbent position, and strict attention to the general health. Both the inflammation and ulceration, however, proved very rebellious to treatment. It was only by very slow degrees that the inflammatory hypertrophy of the lips of the cervix subsided. As this change occurred, the cervix, which, as we have seen, was very low and retroverted, gradually rose in the pelvis, and partly assumed a more normal direction, the ulceration likewise cicatrizing.

The ulceration external to the cavity of the os healed in the course of a few weeks, but the internal ulceration proved very obstinate, and the more so the deeper it was situated. It was only after an almost uninterrupted treatment of five months that the cavity of the cervix was completely healed. As it cicatrized it closed, until, from being long sufficiently open to admit the first phalanx of the finger, it became so contracted as merely to admit the uterine sound. For the last six weeks of the treatment, the ulceration appeared limited to a small deep-seated surface, probably that from which the polypus sprang, near the inner orifice of the cavity of the uterine neck. At the time the local treatment was brought to a close, the cervix was at least two inches higher in the pelvis than when I extirpated the polypus. It was also very much smaller, very much less retroverted, and presented no evidence of inflammatory induration, although still rather larger and harder than natural. The vagina was quite healthy. All the uterine organs were, however, still very sensitive to the touch; but in this respect they merely participated in the exaggerated state of nervous sensibility of the entire economy. Ever since the evulsion of the

polypus there had been no continued sanguineous discharge after the monthly periods, although the purulent discharge was often streaked with blood, especially after cauterization. The menses flowed rather abundantly for five or six days, and were then replaced by the purulent or sanguineo-purulent discharge from the ulceration.

The slowness of the process of cicatrization in this case may be accounted for by two circumstances—first, by the very lengthened existence which I feel warranted in ascribing to the local disease; and secondly, to the very debilitated state of the general health, depraved by fifteen years of flooding and suffering. Not only was the patient so reduced by the continued loss of blood, morbid and artificial, that loud anemic murmurs were heard in the heart, and in the large bloodvessels, but the digestive and nervous system had received a severe shock. The stomach could scarcely bear even the lightest food, and that only in very small quantities; the action of the bowels was irregular, they were often relaxed and irritable; and no stimulant, or dietetic or medicinal tonic, could be borne. She had been salivated more than once, and attributed the extreme susceptibility of the digestive system partly to this cause. Iron, quinine, iodine, &c., were all tried at various periods, but as often suspended from the disturbance they created in the economy. The intercostal, the sciatics, the crural, the dorsal, and other nerves, were all at different times the seat of severe neuralgic pains, which generally proved rebellious to local therapeutic agents. They seemed to change their seat or disappear under the influence of atmospheric variations, or of mental or bodily conditions of a still less tangible nature, and were evidently the result of the general anemic state of the economy.

#### CASE XVI.

##### *Inflammation and Ulceration of the Neck of the Uterus, complicating a Fibrous Tumor of the Uterus.*

In March, 1847, I was consulted by Mrs. M——, aged thirty-nine, married, without family, who had for some years been suffering from severe uterine symptoms. Her disease had been pronounced cancerous. Married rather late in life, she had never been pregnant, enjoying good health until about the age of thirty-five, when she began to experience bearing-down pains, and menstruation became rather more painful and more abundant than usual. At a later period she suffered from whites, and pain in the back. These symptoms gradually increased, her health failed totally, and for some time before I was consulted she had been confined to bed. When I saw her, she was weak, pale, sallow, and emaciated; and complained greatly of severe dorsal and ovarian pains, of cardialgia and cephalalgia. The digestion was much impaired.

On examining the uterus digitally, I found it very much enlarged, and rising considerably above the pubis, but movable and non-adherent. It was evidently the seat of a large fibrous growth. The



os was open, and presented the velvety sensation of ulceration. On using the speculum, the vagina was found red and congested; the cervix more voluminous than natural, and ulcerated, the ulceration passing into the open os. The os internum of the cervical canal was relaxed, and the uterine sound passed nearly four inches into the uterine cavity.

Being convinced that the ulcerative inflammation of the uterine neck had a great deal to do with the state of the health, more, perhaps, than the fibrous tumor itself, I at once placed the patient under the treatment which I follow in such cases. The ulceration was periodically cauterized, astringent vaginal injections used, the bowels, which were very constipated, regulated, and great attention paid to diet. Under the influence of this treatment, seconded by such medicinal means as her state seemed to require, the inflammatory ulceration gradually diminished, and finally healed, all the surrounding inflammation likewise disappearing. At the same time the local pains became less, and ultimately all but disappeared, the digestion and general health gradually improving. In the course of a few months from the time I first saw her she was quite convalescent, and has since been restored to a very tolerable state of health. The more severe uterine symptoms have disappeared, the menstrual flux is moderate, the tumor is indolent, and does not appear to increase, and her state, although that of an invalid, is very bearable.

In this instance there was no decided hemorrhage at the menstrual periods. Severe hemorrhage, however, is very often present in fibrous tumors of the uterus, when these inflammatory lesions of the cervix exist and the uterine cavity is increased in size. I nearly always find this hemorrhage greatly diminished, if not entirely subdued, by the entire removal of the local inflammatory disease, even when the fibrous tumor remains.

#### CASE XVII.

*Inflammation and Ulceration of the Uterine Neck complicating a Fibrous Tumor of the Uterus—Cure of the former—Escape of the Tumor from the Uterus—Its removal.*

IN 1854 I was sent for into the country to see a lady, who was stated to be suffering from cancer of the uterus. On my arrival I found that the patient, aged 50, had been lying in bed for two months, in a state of great anemia and suffering, expecting death, for which she was mentally quite prepared. The disease of the uterus had been pronounced cancerous, after a consultation of the leading medical practitioners of a large adjacent town. A careful examination showed me that the disease was, in reality, a fibrous uterine tumor, accompanied by extensive ulceration of an hypertrophied cervix, divided into segments by some previous labor. The announcement of this fact worked such a change in her nervous system, that she got up,

dressed, dined with me at her own dinner-table, and within a week was in town.

The ulcerative and inflammatory disease of the cervix, as also some amount of chronic metritis which coexisted, gave way gradually to treatment, and she left me in very improved health. About a year afterwards, the cervix, once more healthy, relaxed, the uterine fibrous tumor descended into the vagina, and was successfully removed. The lady became subsequently quite restored to her former health.

I have had other cases of a similar kind, in which the removal of chronic inflammation and hypertrophy of the cervix has allowed the os to soften and to relax, so that the uterine tumor has been able to descend sufficiently low to admit of being removed by surgical means.

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## CHAPTER XVII.

### SYPHILITIC INFLAMMATION AND ULCERATION OF THE NECK OF THE UTERUS.

BUT little has been written respecting syphilitic inflammation of the neck of the uterus, and that little is of a very contradictory nature; some writers thinking syphilitic inflammation is common, whereas others assert that it is extremely rare. When, however, we recollect that, even in Paris, the speculum has only been brought into use, as a means of diagnosis, within the last few years, and when we also bear in mind the great difficulty of determining precisely, in many cases, what is and what is not syphilitic inflammation, this discrepancy cannot be a cause of surprise.

By most writers on uterine diseases, syphilitic ulcerations of the cervix are not even alluded to. Thus, in Lisfranc's *Lectures on Diseases of the Uterus*, edited by M. Pauley, not a word is said on the subject; neither are they mentioned, except by Dr. Balbirnie, in the most recent British works on the diseases peculiar to women. M. Duparcque considers these ulcerations rare, but evidently confounds them with other diseases (corroding ulcers, &c.), under the title of chancreous ulcers, so as to render it difficult to understand what are his real views on the subject.

On the other hand, M. Gibert, the learned physician of St. Louis, in a pamphlet on uterine disease, published in 1837, states that out of five hundred women whom he examined with the speculum at the venereal hospital of Lourcine, one hundred and forty presented *granular* ulcerations, the greater part of which he considered to be syphilitic. None of these ulcerations, however, presented the physical characters of a real chancre. I have myself seen numerous ulcerations of the cervix uteri under similar circumstances, but they had not the ap-

pearance of true chancres. It was consequently with some surprise that I read in Dr. Balbirnie's treatise on "Organic Diseases of the Womb," that "during a twelvemonth he had seen *many* beautiful examples of real Hunterian chancre existing on the os tincae, at the Hôpital des Veneriens, in the service of M. Ricord." I was the more surprised to meet with this statement, as M. Ricord has repeatedly told me that he, also, has very rarely met with the Hunterian chancre on the cervix uteri. I have ascertained from Mr. Acton, the author of a very able work on Diseases of the Urinary and Generative Organs, who was several years M. Ricord's pupil and friend, that my recollections of that distinguished practitioner's opinion and practice are perfectly correct, and that uterine chancres are very seldom met with in his ward or practice. Dr. Balbirnie must, indeed, have misinterpreted the pathological meaning of the cases which he saw.

All the treatises on syphilis with which I am acquainted, are nearly or quite barren on the subject of syphilitic ulceration of the cervix uteri. In giving the result of my own experience, I shall also avail myself of that of others, and shall endeavor to present a faithful picture of the present state of science, with reference to syphilitic ulceration in this region.

The first step to be taken in the study of syphilitic ulcerations of the cervix uteri is their separation into two classes; the first comprising the true classical, Hunterian chancre, the primitive venereal ulceration; and the second, including ulcerations which do not present the characters of the true chancre, but appearing under doubtful circumstances, are believed to be venereal by some writers.

#### REAL CHANCRES OF THE CERVIX UTERI.

There can be no doubt that the real Hunterian chancre is very rarely met with on the cervix uteri. I only saw two instances of it during my lengthened connection with the Paris hospitals, and since then have not seen a case. The late M. Cullerier, who was many years physician to the Paris Venereal Hospital, and habitually used the speculum, only met with three cases during his entire career. M. Gibert, who was several years physician to the Lourcine (a female venereal hospital), when he wrote the pamphlet already alluded to, had only seen three instances of true chancre. At the Hôpital St. Lazare, where many hundred cases of syphilis, in all its forms, are annually treated, only a *very* small number of real chancres are met with in the course of each year. M. Duparcque admits their extreme rarity; and although he has long enjoyed a very extensive practice in the treatment of uterine disease, he is obliged to borrow from other authors the two or three cases which he gives in his work to illustrate syphilitic chancreous ulceration. The experience of M. Emery, of the Hôpital St. Louis, who is also physician to the "Dispensaire,"<sup>1</sup> and is

<sup>1</sup> In Paris all women of the town are registered by the police, and examined weekly, by medical gentlemen appointed for that purpose. The locality where this examina-



intrusted with the weekly visitation of the females who are there examined, furnishes the same result. The extreme rarity of *primary chancres*, with their usual physical characters, on the cervix uteri, must therefore, I think, be admitted as a fact.

The question, however, at once presents itself: Is the apparent rarity of primary chancre to be attributed to the syphilitic virus being seldom deposited on the organ, or to the chancreous ulceration, when it does occur, soon losing its characteristic appearance, and assuming the aspect of an ordinary ulceration? M. Gibert seems to adopt the latter opinion, and says that a chancre probably passes into "granular erosion"—which he thinks venereal—when its duration is prolonged. I am myself disinclined to accept this interpretation. I do not see why a specific chancreous ulceration should lose its characters any sooner when situated on the cervix uteri than on the other mucous surfaces lining the cavities of the body. A syphilitic ulceration retains its peculiarities in the mouth, in the vulva, and on the parietes of the vagina, and I see no reason why, when left alone, it should rapidly lose its characteristic appearance on the cervix uteri; so rapidly, indeed, as to render it difficult to meet with a chancre on that organ, however great the opportunities afforded for the investigation of syphilitic disease.

I think it much more probable that primary infection seldom takes place on the cervix, the virus of a sore being brushed off before this part is reached, and being thus almost invariably deposited on the mucous surfaces covering the external and inferior regions of the female sexual organs. This view is corroborated also by the rarity of chancres in the superior part of the vagina, which must proceed from the same cause. Their frequency, indeed, decreases as we recede from the vulva, their ordinary seat. If the views now advocated are correct, if a real chancre situated on the cervix retains its peculiar appearance in the same way as in other regions, we must then admit that the very great majority of the ulcerations that are so frequently found on the uterine neck of females laboring under the various forms of syphilis, are not primary syphilitic ulcerations modified by time, but either non-syphilitic ulcerations, or secondary sores connected with constitutional syphilis.

The researches of M. Ricord with reference to the inoculation of the secretion from ulcerations of the cervix, corroborate the above views. In his treatise on inoculation, he merely gives one instance of chancre of the cervix. (*Case xiii.*) The pus from this chancre was inoculated on the thigh, and gave rise to characteristic ulceration. On the other hand, inoculation was unsuccessful in four cases in which ulceration of the cervix accompanied blennorrhagia. In two of these

tion takes place is called the Dispensaire. Those who are found diseased are sent to St. Lazare, a kind of female hospital prison. Formerly the examination was merely external, but now the speculum is invariably used. This system has much contributed to diminish the frequency of venereal disease in Paris.

cases the ulceration was the ordinary bleeding granular ulceration; in one, the ulcerated surface was covered with a white pseudo-membranous film, which only disappeared with the eschar of the cauterization. In the last there were chancres on the vulva, and the ulceration of the cervix was absolutely like a chancre. The inoculation was only performed a week after the ulcerated surface had been cauterized; at that time the eschar had fallen, and the ulceration was rosy, and covered with healthy granulations. Was this a chancre, or not? I am unable to decide, but am inclined to think, with M. Ricord, that it was not. The patient had been laboring under severe blennorrhagia for many months.

When a chancre really does exist, it presents the usual characters. The ulceration is deeply excavated, and its surface is covered by a yellow or grayish film; the edges are elevated, irregular, and indurated. This chancre is, no doubt, generally accompanied, except at the onset, by slight partial induration of the cervix, the extent of the induration depending on the uterus having, or not having, undergone the changes which follow conception; and in the former case, on the length of time that has elapsed since the last labor or abortion. The size of the chancre or chancres, for there may be several, varies. Those which I have seen were small; one was not so large as a four-penny piece, the other was still smaller. M. Duparcque mentions a case in which the chancre was much larger than in either of my patients. If the chancre is allowed to remain untreated it may heal spontaneously, or it may, according to M. Duparcque, assume a chronic form, and remain unchanged for months. When this occurs, the state of sub-inflammation of the cervix, which the chancre keeps up, is followed by general induration of that organ. This induration may be carried to such an extent as to simulate the stony hardness of ulcerated scirrhus. (*See Case xx.*)

The presence of a well-formed chancre might, possibly, be appreciated by the touch. The excavation, with its indurated margin, would lead, at all events, to the conclusion that an ulceration existed, the nature of which the speculum would partly reveal. The local and general symptoms produced by a chancre in the first period of its formation are very obscure. Indeed, they may at first be said scarcely to exist; they are then, at the most, confined to very slightly hypogastric pain, and to scarcely perceptible mucoso-purulent secretion. Should, however, the chancre increase in size, and give rise to irritation, inflammation, and induration of the cervix, then all the symptoms which have been enumerated as the result of these lesions, may manifest themselves—viz., severe hypogastric and lumbar pains, sensation of weight and bearing-down in the pelvis, leucorrhœa, &c. The following cases will illustrate these varieties of chancre of the cervix.

CASES ILLUSTRATIVE OF REAL CHANCER OF THE CERVIX  
UTERI.

## CASE XVIII.

*Blennorrhagia; a Chancre appears at the Os Uteri a fortnight after the commencement of treatment.*

A. M——, housekeeper, aged thirty, entered the Hôpital St. Louis, the 1st of May, 1843. Of robust constitution, she habitually enjoys good health, and menstruates regularly. Some few years ago, she had a natural labor; since then she has not presented any uterine symptom, nor suffered from leucorrhœa. For the last two years she has lived maritally with an elderly person, to whom, a few weeks before her admission she communicated a chancre, which was followed by a bubo. She confesses to having exposed herself to suspicious communication. She was carefully examined in town with the speculum, but no trace of chancre was found. The entire surface of the vagina, I was told, was then the seat of an abundant mucoso-puriform discharge, but there was no other lesion; the cervix and os uteri were perfectly healthy.

After her admission, I examined, very carefully, the external and internal genital organs, the case, as presented to my notice, bearing directly on the identity of blennorrhagia and syphilis, and tending to prove that blennorrhagia is susceptible of communicating chancre. I did not, however, find the slightest erosion of any portion of the mucous surface. The cervix was perfectly natural and healthy, merely presenting slight redness of its mucous membrane, in common with that of the vagina. Between the lips of the neck of the uterus, however, there was a stream of opaque muco-pus apparently issuing from the cervical cavity. The uterus was slightly sensible on pressure, and rather more voluminous than in the natural state, but as she had menstruated only two days previously, I did not attach much importance to these symptoms. On opening the lips of the os uteri as much as possible with the speculum, and wiping away the muco-pus, I could discover no lesion.

Founding my opinion on the data furnished by the above examination, I concluded that the disease was merely blennorrhagia, occupying the entire vagina, and extending into the uterine cavity. The patient was therefore treated accordingly (balsam copaibæ, emollient injections, general baths, and light diet). The inflammatory symptoms and the discharge diminished rapidly.

In the ten days which followed, she was twice examined with the speculum; for I was most anxious thoroughly to investigate the case, and each time the cervix presented the same appearance; except that the redness gradually diminished, as did likewise that of the vagina; the increased sensibility and the congestion of the uterus had entirely disappeared.



On the 16th of May, I again applied the speculum, and saw distinctly a small ulceration issuing from the cavity of the os uteri, and turning over on to the anterior lip. The ulceration presented a grayish surface, and an irregular indurated margin; it was deemed to be a true chancre by M. Emery, as well as by myself and many other persons who saw it. Under this impression, it was cauterized with the acid nitrate of mercury, and the patient was submitted to mercurial treatment—viz., bichloride of mercury, one-seventh of a grain daily, and sarsaparilla.

In spite of these measures, the ulceration extended itself over a surface as large as a fourpenny piece. It lost, however, its characteristic appearance after the second cauterization. The increase of the ulceration was attended with gradual induration of the anterior lip of the cervix, which became as large as a small walnut. The cauterization was repeated every week. After the third, the ulceration began to diminish in size, but it was not cicatrized until the end of July. The flow of muco-pus from between the lips of the os ceased a short time after the escape of the chancre from that cavity. The blennorrhagia disappeared during the course of treatment. The administration of mercury was continued during a month, without producing salivation. No other syphilitic symptoms manifested themselves. The patient was discharged on the 1st of August. There was still, however, a little hypertrophy of the anterior lip of the cervix.

*Remarks.*—In this woman it is to me evident that the chancre remained concealed within the cavity of the os uteri during several weeks—a very singular and important feature in the case. Had I not persisted in examining her with the speculum during the treatment of the blennorrhagia, the chancre would never have been discovered, and the case would have been considered an all but unimpeachable proof that blennorrhagia in one person can produce chancres in another; and had the uterine chancre healed spontaneously, and secondary symptoms supervened at a later period, they would likewise have been attributed to the blennorrhagia. One carefully observed and well authenticated instance, such as the above, goes a great way to annihilate the value of the exceptional cases by which some authors endeavor to establish the identity between syphilis and blennorrhagia.

In the above female, the muco-pus issuing from the cavity of the os uteri was most likely the product of the concealed chancre. It will be remarked that the characteristic appearance of the chancre ceased to be observed on the falling of the eschar produced by the second cauterization.

#### CASE XIX.

*Chancre of the Cervix; Inoculation; Blennorrhagia.*  
(Abridged from M. Ricord on Inoculation, p. 212.)

Catharine H—— entered the hospital on the 4th of April, 1834. Had contracted several chancres seven months previously; had been subjected to no treatment. She presented, on her admission, a chancre

on the left labium externum, and another on the corresponding nympha. On examination with the speculum, there were found a puriform vaginal secretion, and an excavated grayish ulceration on the anterior lip of the cervix, with irregular elevated margin. Until the 10th, emollient injections only were resorted to, the chancre being dressed with opiated cerate.

On the 18th, the acute period of the disease had disappeared; the discharge was white, and less abundant; the ulceration of the cervix had not changed its aspect; pus was taken from its surface, and inoculated on the right thigh; pus was also taken from the peri-uterine cul-de-sac, and inoculated on the left thigh. The uterine ulcerations were then cauterized with the nitrate of silver.

On the 19th, the inoculated points were red and elevated; on the 20th, the vesicles were quite formed on both thighs; on the 22d, they were full of pus; and on the 1st of May, well-characterized chancres existed on both thighs. These chancres were then cauterized, and dressed with calomel-and-opium ointment. The chancre of the nympha had disappeared under the influence of the cauterization; that of the outer lip was cicatrizing, as was also the chancre of the cervix, which had been repeatedly cauterized. Injections, and plugging of the vagina with lint steeped in a lotion containing acetate of lead.

On the 20th, the original chancres were cicatrized, but their bases were indurated. The blennorrhagia had disappeared. Pills of proto-iodide of mercury and sudorific syrup (a preparation containing mercury) were given in order to remove the indurations.

On the 30th, the inoculated chancres were also healed, and the induration had nearly disappeared.

On the 7th of June, the cure was perfect.

#### CASE XX.

*Chronic Chancre; extreme Induration of the Cervix. Cure by Mercury.*

This case occurred to M. Cullerier, and is quoted by M. Lagneau and M. Duparcque. It is said to be the only one that Cullerier ever met with in private practice. Madame ——— had lived several years with a gentleman, whose bad health was occasioned by frequent returns of an old venereal disease. From the commencement of her cohabitation with this person, she experienced a degree of sensibility in the neck of the uterus which was not usual to her, but did not attribute it to the real cause. This sensibility gradually increased, until it became an acute, lancinating pain, accompanied by a sanious, abundant discharge. After three years' suffering, she consulted Cullerier, who recognized a considerable scirrhus (?) engorgement of the cervix, which was also the seat of several ulcers with hard indurated margins. It was from these ulcers that the sanious discharge above mentioned came. Being convinced that the disease was venereal, Cullerier treated it with a preparation of mercury (the bichloride). In two

months the ulcerations were cicatrized, the cervix had returned to its normal size, and all the symptoms under which she labored had disappeared.

This case illustrates the extreme (stony) induration of the cervix which sometimes follows chronic ulceration of that organ, whether the ulceration be syphilitic or not. The term scirrhus used by Cullerier, is evidently synonymous with hard, and does not convey the meaning of cancer. The ulceration was certainly syphilitic, but it is impossible to say whether it was a primary sore or not. From the imperfect description given of it, it appears to resemble more those deep, sanious, chancreous-looking sores which are found on the falling of pustular syphilides, than primary chancre.

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I shall now examine the *non-chancrous-looking* ulcerations of the cervix, which so frequently complicate blennorrhagia and the various secondary forms of syphilis, and endeavor to ascertain what is their real nature.

#### THE NON-CHANCROUS-LOOKING ULCERATIONS WHICH COMPLICATE THE VARIOUS FORMS OF SYPHILIS.

As I have already attempted to prove, both by my own experience, and that of other competent judges, the real classical, inoculatable Hunterian chancre, is *very* seldom met with on the cervix; and the facts which I have brought forward to establish this proposition are, I think, so satisfactory, that we may consider this point as definitely settled.

Ulcerations, however, *not* presenting the above-mentioned characters, are exceedingly common in females laboring either under blennorrhagic discharges, or primary, secondary, or tertiary syphilis; much more so, indeed, than could possibly be supposed by practitioners who do not habitually use the speculum, however accustomed they may be to the treatment of syphilitic diseases.

The frequency of ulceration of the cervix uteri in women suffering under acute or chronic blennorrhagia, has been pointed out for some years past by the Paris surgeons, but I am not aware that its great frequency as a concomitant of secondary syphilitic symptoms has been insisted upon.

In the spring and summer of 1843, whilst in charge of a female skin-ward of seventy-five beds, at the Hôpital St. Louis, in which there were always a great number of syphilitic skin diseases, I carefully examined with the speculum all who were so affected, in order to ascertain the state of the internal genital organs. I was led to adopt this course by finding, *on inquiry*, that several of those patients who presented no syphilitic disease of the external genital organs, except trifling leucorrhœa, were laboring under the symptoms which I have enumerated as indicating slight inflammation and ulceration of the



cervix uteri. On examining these patients, I constantly found the cervix ulcerated and slightly indurated, and it then occurred to me that the others might be similarly diseased, although they had not directed my attention to any symptoms of uterine disease. To my great surprise, I found that three out of four—perhaps more—also presented ulcerations of the cervix. Most of these patients were young women who had either never borne children, or had been confined several years previously, and were under treatment for syphilitic psoriasis, lichen, rupia, &c. When questioned narrowly, they *all* admitted that they experienced slight hypogastric pain; that congress had been rather painful for some time; and some that they had likewise a slight leucorrhœal discharge. They had not, however, paid any attention to these symptoms.

What was the nature of these ulcerations? Were they syphilitic, modified chancres, or secondary ulcerations, or were they merely inflammatory sores? In their appearance, I could discover little or no difference from the ulcerations observed in non-syphilitic patients, and was therefore inclined to deny their general syphilitic nature. Some were large, some small; some had a well-defined margin, others not; some were covered with large unhealthy granulations; others with small, florid, healthy granulations: whilst some, again, presented a kind of pseudo-membranous film. On referring to M. Gibert's treatise, I found that his experience at the Lourcine Venereal Hospital coincided with what I saw with reference to the frequency of ulceration of the cervix in persons laboring under syphilis. It did not appear, however, from his statistics, that he had met with it so often as I had—a fact which may easily be explained. The Lourcine is the hospital to which females affected with syphilis, who apply to the central board for admission, are drafted;<sup>1</sup> and the slightest suspicion of a woman laboring under blennorrhagia or syphilis is sufficient

<sup>1</sup> The Paris hospitals are all under one common jurisdiction. Every day a board of surgeons, and another of physicians, sit in a central situation, to admit patients into the different hospitals. The director or governor (a non-medical resident functionary) of each hospital is obliged to send every morning, before ten o'clock, to the central board (*bureau central*), a list of the vacant male and female beds. The patients applying for admittance, if found, on a superficial examination, to present any symptoms of disease, are at once sent to the different hospitals until all the beds are filled, that hospital being selected which is the best suited for the disease, or which is the nearest to their home. There are nearly always more beds than applicants. Should this, however, not be the case, for some days together, as occurs in times of epidemic disease, supplementary beds are at once put up in the various hospitals to meet the emergency. This truly Samaritan system of relieving the sick poor deserves to be better known and appreciated in this country than it is at present. In Paris there is no difficulty whatever placed in the way of the admission of the poor into the hospitals. In addition to the "*bureau central*," every morning a physician and surgeon likewise admit applicants at each hospital, and the "*interne*" on guard, during the absence of the physician or surgeon, has also power to admit whomsoever he may think proper, day or night. No questions are asked as to means, &c., the very fact of a person applying for admission into a hospital being considered a sufficient guarantee of his or her poverty. The Paris hospitals are therefore the ordinary asylum of the poor, when sick. Indeed, one third of the population of that city die under their roof.

to insure her being sent to it, in preference to any other. The consequence is, that women are often admitted who are not affected with blennorrhagia or syphilis, but present some other disease of the genital organs. They are, however, examined with the speculum.

Out of the five hundred patients examined indiscriminately by M. Gibert, the details of whose cases he took down, one hundred and forty-four presented ulceration of the cervix (*erosion granulée*). Of the latter, fifteen offered no other morbid symptom; eighteen presented chancres; twenty-four, condylomata, or mucous tubercles; eleven, buboes; ten, consecutive ulcerations of the amygdalæ, mouth, or pharynx; ten, rhagades; six, vegetations; eleven, syphilides; and eight, blennorrhagia. In some cases there was no appreciable leucorrhœa; in the majority of the remainder, but little. When describing these "granular erosions" (p. 13), M. Gibert says: "This ulceration, always rather superficial, generally has a rounded form, and is more or less plainly limited; it occupies sometimes the superior lip, sometimes the inferior, and sometimes the two, and sometimes it even appears to penetrate into the cavity of the cervix uteri; its surface is red and granular, and contrasts notably with the smooth and polished surface of the normal neck; and it bleeds easily. Generally speaking, a veil of viscous semi-transparent mucus, which flows from the orifice of the neck of the uterus, covers the granular erosion."

Founding his opinion on the above description, M. Gibert endeavors to establish this form of ulceration as a distinct species of syphilitic ulceration, which he appears to think succeeds in many instances to chancres.

In this view of the lesion, as I have already said, I cannot agree with M. Gibert. I do not, I must confess, see in his description of the "granular erosion" the elements of a distinct species of ulceration. The characters which he gives to it are the characters which I have uniformly met with in merely inflammatory ulcerations. The circular form of the ulceration, on which he subsequently lays great stress, is the form which I have hitherto seen all kinds of ulceration of the cervix assume, in forty-nine cases out of fifty. Sometimes an ulceration may be irregular, serpiginous; indeed some French practitioners have (very unnecessarily, I think) admitted a serpiginous variety; but this is the exception, not the rule. As to the "granular" appearance of the ulceration, *all* ulcerated surfaces are covered with granulations of some species or other, and I never could understand why the term "granular" should be applied to any kind of ulceration as a distinctive name. *All ulcerations being granular*, the addition is altogether unnecessary, and indeed, implies nothing. For the above reasons, although I accept M. Gibert's experience as substantiating the extreme frequency of ulceration of the cervix in persons laboring under syphilis, primary or secondary, I do not accept his views with regard to the syphilitic nature of these ulcerations.

The experiments which M. Ricord has performed, with reference to the inoculation of syphilis, have thrown very great light on this ques-

tion, as on every other connected with the pathology of syphilis. M. Ricord, as I stated above, has repeatedly inoculated with the pus from these ulcerations—that is, from ulcerations of the cervix, not offering the physical characters of true chancre, but existing in women who labor under some of the various forms of syphilis—without giving rise to the formation of chancres.

I have also learnt from Mr. Acton,<sup>1</sup> the experienced London syphilo-graphist, that he repeated M. Ricord's experiments, in Paris, along with M. Vidal de Cassis, the surgeon to the Lourcine, with a like result. Inoculation with the pus from the non-chancrous-looking ulcerations of the cervix in syphilitic patients never gave rise to chancres.

I must add, as an element in the diagnosis, that these ulcerations generally gave way easily to the usual treatment—viz., slight cauterization, injections, &c. It is, however, scarcely necessary to say, that in those instances in which considerable induration of the cervix exists, it is as troublesome as usual. In all the cases which have come under my notice, the venereal symptoms were treated at the same time as the uterine.

From the facts which I have brought forward, and the considerations into which I have entered, I think I am warranted in concluding that the non-chancrous-looking ulcerations observed on syphilitic patients are not, in the immense majority of cases, primary syphilitic sores, or modified chancres; I do not say in all, because it is generally admitted that real primary sores do not always assume the appearance of the classical chancre.

Admitting that these ulcerations are not primary syphilitic sores, is it equally true that they are merely inflammatory? may they not be secondary? That some *may* be so, I think is probable; but I do not believe it probable that more than a very small number can possibly have such an origin. On the one hand, affections of the mucous membranes are not so very common (as secondary symptoms of syphilis), and on the other, a secondary ulceration of the mucous surface presents peculiar characters, which are not those usually observed. I have, however, seen ulcerations of the cervix, in syphilitic patients, present the gray pseudo-membranous covering which is seen in secondary syphilitic ulceration of mucous membrane, and am quite willing to admit that they may really have been instances of this form of disease.

If the ulcerations which we are examining are not syphilitic, what is their nature? To this question I answer that, in my opinion, they are, generally speaking, inflammatory. In vaginitis, be it simple or virulent, as I have elsewhere stated, the inflammation soon extends to the cervix and its cavity, where, owing to the great vitality of the organ, and to the number of its mucous follicles, inflammation easily passes on to ulceration.

<sup>1</sup> See Mr. Acton's work *On Diseases of the Urinary and Generative Organs*. Third Edition, 1861.



It has been stated by Ricord and other writers on syphilis, that blennorrhagic inflammation frequently passes into the cavity of the uterus, and attacks its lining membrane. My own observation would lead me to conclude, that in blennorrhagic inflammation and ulceration of the cervix, as in simple inflammation, this is not very often the case. I believe that this opinion is to be attributed, in one form of the disease as in the other, to inflammation of the *cavity of the cervix* being mistaken for inflammation of the *cavity of the uterus*.

The prevalence of ulceration without vaginitis in women laboring under the various forms of syphilis is certainly singular; but I am inclined to attribute it, in a great measure, to the abandoned life which they nearly all lead, or have led.

I shall conclude this account of syphilitic ulceration by the following propositions:—

First.—The indurated classical chancre, presenting its ordinary physical characters, is *excessively rare* on the cervix uteri.

Secondly.—Ulcerations presenting the characters of inflammatory ulceration are, on the contrary, very common in patients laboring under blennorrhagia, or primary, secondary, and tertiary syphilis.

Thirdly.—Some few of these ulcerations may be primary or secondary, but the great majority are merely inflammatory.

The above chapter was written in 1844, and appeared all but verbatim as it now stands, in the first edition of this work in 1845. Subsequent experience, both in public and private practice, has merely confirmed the views therein enumerated, and I now find that I have nothing to alter, and but very little to add (1861). I am happy to say that I am fully borne out by Mr. Acton, the latest writer on the subject. In the third edition of his work, just published, he fully corroborates the views and opinions I have laid down, and at page 209 enters at considerable length into his reasons for so doing.

Since the first appearance of this treatise much has been written on the subject of uterine syphilis. The writers, however, who attach so much importance to it, and think that it is constantly met with, appear to me to be mostly practitioners but little familiarized with the inflammatory diseases of the uterus. Some have distinguished themselves by all but denying the existence of inflammatory ulceration, whilst others have gained their knowledge of uterine diseases in syphilitic hospitals and dispensaries. Thence a bias, a tendency to look upon nearly all uterine disease met with as syphilitic. I must, however, refer my readers for the further discussion of this question to my "Review of the Present State of Uterine Pathology," published in 1846, page 49: The Syphilis Theory.

## CHAPTER XVIII.

## ON THE DIAGNOSIS OF CANCER OF THE UTERUS.

It is difficult, indeed, perhaps impossible, in the present state of science, to give a correct and comprehensive definition of cancer. Cancer may, however, be said, generally, to be a disease characterized by the formation of growths of structures which "have the power of re-development—that is, which once existing, may spread to other tissues or organs, causing in them a disease or growth similar to themselves, by a species of propagation similar to that possessed by vegetable fungi." This is the definition given to the term malignant by my namesake, Professor Bennett, of Edinburgh, in the very able work on Cancer<sup>1</sup> which he has recently published, and may with equal propriety be applied to the various forms of disease to which the appellation of cancerous has hitherto been given.

The researches of modern pathologists and histologists having demonstrated that cancer is not an inflammatory affection, its history does not necessarily form part of a treatise on inflammation of the uterus. As, however, inflammation and cancer of the uterus have been, and are still, confounded by the most classical writers of the present day, a short account of the manner in which cancer manifests itself, and of the appearances which it presents in the uterus, is necessary, in order to establish correctly the diagnosis between malignant and inflammatory disease.

Previous to modern investigation in the field of pathological anatomy, the most vague notions prevailed respecting the nature of cancerous formation. The first results, however, afforded by pathological anatomy, tended rather to encourage fresh errors than to dispel former ones, as they led to a belief in the identity of cancer and inflammation. Subsequent researches were more successful, and since the microscope has been applied to the study of the intimate organization of healthy and morbid structures, a very considerable amount of information has been acquired respecting the differential pathology of these affections. The researches of Professor Bennett, contained in the monograph to which I have above referred, more especially throw great additional light on the nature of malignant disease.

<sup>1</sup> On Cancerous and Cancroid Growths, by John Hughes Bennett, M. D. Edinburgh, 1849. And clinical Lectures on the Principles and Practice of Medicine. Third Edition, 1859. I cannot too strongly recommend Professor Bennett's works to the attention of the profession. His researches on the pathology and histology of cancer are of pre-eminent value and interest, and have done much to clear up this obscure and difficult subject.

The Edinburgh Professor has embodied in it the results of many years' careful microscopical investigation, for which his intimate acquaintance with the labors of continental histologists had peculiarly prepared him, and he has thus been able to produce a more accurate and more philosophical essay than any author who has preceded him. Impressed as I am with the great value and importance of his histological labors, I shall adopt, in a few remarks I have to make on uterine cancer, his classification of malignant disease, and shall also borrow from him his definitions of the various forms under which it is observed.

Professor Bennett recognizes two divisions of malignant growths, the CANCEROUS and the CANCROID. Cancerous growths are those which present undoubted anatomical and microscopic characteristics, whilst cancrioid growths are structures which, to the naked eye, the feel, and often in their progress, so closely resemble cancerous ones that they are commonly mistaken for them, although they present, on examination, structural differences of a very marked character.

Cancerous growths include three forms of cancer properly so called, which comprise the principal forms spoken of by morbid anatomists—scirrhus or hard, encephaloma or soft, and colloid or gelatinous cancer. These three forms of cancer are merely modifications of an anatomical state characterized by the presence of nucleated cancer cells infiltrated amongst the meshes of a fibrous structure, and swimming in a viscous fluid. It is the presence of these three elements thus associated that constitutes the cancerous growth, and it is the relative amount of each that determines its form. Thus it is that a cancerous growth is at the same time a homologous and a heterologous tissue. The individual elements of which it is composed do not essentially differ from those which are found in the healthy tissues; in this sense, therefore, cancer may be said to be homologous to the healthy structures of the economy. But the mode in which these individual elements are aggregated and combined has no parallel in normal structures; in this sense, therefore, it is heterologous. As we have seen, the fibres, the cells, and the viscous fluid which constitute the three essential elements of a cancerous growth, vary in the relative amount which they present one to the other. If the fibrous element be in excess, it constitutes scirrhus or hard cancer; if the cells be numerous, encephaloma, or soft cancer; and if the fluid abound, and be collected into loculi, or little cysts, it becomes colloid cancer. All these forms of cancer may frequently be observed in the same tumor; in one place, it is hard or scirrhus; in another, soft or encephaloid; and in a third, jelly-like or colloid. Yet although they may pass into or succeed one another, they are not unfrequently distinct from their origin to their termination.

The researches of histologists have been less successful in determining the intimate structures of cancrioid growths. They have, however, thrown considerable light on a subject previously involved in darkness, by proving that various growths, which in their appearance, feel, and progress closely resemble cancerous ones, and are commonly mistaken



for such, on microscopical examination present structural differences of a very marked character. As these structural differences profoundly modify the pathological course of such growths, and the results obtainable by treatment, the distinction is most valuable and practical, and deserves to be universally adopted.

Under the head of canceroid growths, Professor Bennett describes a variety of formations, some of which are generally considered as mere forms of cancer, whilst the others are universally separated from cancerous diseases, from which, however, they are frequently difficult to distinguish. They are—

1stly. Fibro-nucleated canceroid growths, which include growths closely resembling scirrhus and cephaloma, but differing from them by the absence of cancer-cells, which are replaced by naked nuclei. This difference of structure is only ascertainable by means of the microscope. In several cases quoted by Professor Bennett, growths of this description were removed without a return.

2dly. Epithelial canceroid growths, which consist essentially of an hypertrophy of the mucous or epidermic layer, and are composed of numerous epithelial cells, more or less compacted together. These growths may occur on all large free surfaces, such as the skin and the mucous membrane of the internal cavities, as also within follicles, and the minute ramifications of secreting glands, such as the mammæ or kidneys. When present in the form of tumors, epithelial growths frequently soften and ulcerate, but they may commence by a mere indurated or warty spot, which thickens, assumes a circular cup-shape, and ulcerates. It is to this form of canceroid growth that belong cauliflower excrescence of the cervix uteri, soft warts, and condylomata, cancer of the lip, chimney-sweeper's cancer, *noli me tangere*, corroding ulcer of the cervix uteri, &c.

3dly. Fibrous canceroid growths. Fibrous tumors, are constituted wholly of fibrous or filamentous tissue, and so closely resemble cancer that they are often mistaken for it, and especially for the scirrhus form. Nor is this surprising, when we consider that the only anatomical difference between the two growths is the presence of cancer-cells and nuclei in cancer, and their absence in fibrous tumor. This section comprehends, 1st, thickening or hypertrophy of the subareolar tissue of mucous membranes; 2d, tumors of different varieties, which may be divided into sarcomatous, dermoid, chondroid and neuromatous.

The other canceroid growths are—4thly, the cartilaginous; 5thly, the osseous; and 6thly, the fatty.

Pathological and histological researches, however, combine to show that the complete separation, on anatomical and histological grounds, of cancerous morbid growths from other morbid growths is not possible.

All morbid growths originate in capillary exudation, which likewise constitutes the early stage of inflammation and of tubercular formation. The conditions through which the exudation is followed in one case by the transformations which pertain to inflammation, in

another by those which pertain to tubercle, and in the third by those which characterize morbid growths, are vital conditions. As such they are, to a great extent beyond the reach of our investigation.

The conditions which impress on a morbid growth its peculiar characteristic are also in a great measure vital. It has, however, been satisfactorily ascertained of late years that morbid growths are not necessarily fixed and unchangeable in their nature, as was formerly supposed to be the case. Thus a fibrous tumor may have cancerous juices poured into it, and become cancerous; and, conversely, a cancerous tumor may have the cancerous juices absorbed, and become fibrous. Thus again a cancerous tumor may become fatty, or an indolent fatty tumor may suddenly become the seat of modified morbid nutrition and become cancerous. In all these cases we can only look for the cause in a vital modification of the local exudation in connection with modified vital action.

These important facts tend to substantiate the advisability of removing morbid growths, and especially those evidently cancerous, whenever it is possible. For such removal, however, to be successful, not to be followed by reproduction, the entire disease must be extirpated. This Professor Bennett's researches have proved to be very difficult. The microscopic examination of the tissues reported sound after operation, has often revealed to him the existence of numerous cancer-cells beyond the line of division where no disease was suspected to exist. The reproduction of the morbid growth under such circumstances is of course inevitable. This pathological fact explains the general non-success of operations performed for the removal of cancerous uterine tumors, even when they are apparently limited to the cervix uteri. The knife or caustic cannot reach the real limit of the disease.

Having thus obtained an insight into the nature of cancer, we will endeavor to apply our knowledge to the consideration of malignant disease of the uterus, with a view to the elucidation of its diagnosis in that organ.

Both cancerous and cancrroid growths are observed in the uterus, but the former are more frequently met with, and principally under the form of scirrhus, or hard cancer.

#### CANCEROUS GROWTHS OF THE UTERUS.

Cancerous growths rarely commence in the body of the uterus, or, at least, are seldom there first recognized, the neck of the organ being the region in which they are usually first observed. In the course of time, however, even when the disease commences in the cervix, it gradually extends from the neck to the body of the uterus, so that after death from uterine cancer, the entire womb, or the greater part of it, is generally found involved. The apparent rarity of cancer in its incipient stage in the body of the uterus has long been recognized. Thus Sennertus says: "*Etsi cancer etiam ipsi uteri substantiæ accidere*

potest tamen hoc rarius accidit, et vix tam satis cognoscitur, multo minus curatur; frequenter vero in cervice uteri generatur quapropter hoc loco de eo agemus: isque nunc est sine ulcere, nunc exulceratus." (Lib. iv. de Morbis Mulierum, cap. 11, quoted by Sir Charles Clarke, in his Observations on the Diseases of Females.)

I have used the word "apparent," because I am by no means certain that the cancer is as often entirely confined to the neck of the uterus in its first stage as is generally supposed. When females *really* laboring under uterine cancer draw the attention of their medical attendant to the local symptoms which they present, and a digital examination is made, the disease is, almost invariably, very far advanced, the cervix deeply involved, and the uterus fixed in the pelvis by adhesions; so that it becomes very difficult, if not impossible, to recognize whether or not it extends to the body of the organ. The opinion which prevails that cancerous disease is nearly always confined at first to the cervix is probably owing in part to the fact that chronic inflammatory enlargement of the uterine neck has long been and is still, very generally mistaken for incipient cancer. In these cases, the disease is, in fact, confined to the cervix, the body of the uterus being generally free from enlargement, inequalities, or adhesions.

In the rare instances in which cancerous growths commence in the body of the uterus, the neck remaining free from disease, and in which the patient is seen in this stage, the uterus is increased in size, indurated, and presents irregular nodosities or divisions. The cervix gradually opens, and allows a sanious fluid to escape, having the peculiar offensive odor of cancerous discharges. The uterus is also generally the seat of severe lancinating pains. As the disease progresses, fungous excrescences make their way through the os, the cervix becomes involved, the uterus is fixed in the pelvis, and the case assumes all the characteristics of confirmed uterine cancer.

The only forms of disease with which a cancerous growth of this nature is likely to be confounded, are fibrous tumors and polypi, and chronic partial metritis. The size of the uterus is increased by a fibrous growth, which may be irregularly divided into lobes, so as to give a very uneven surface to the uterus. But there is to guide us the absence, in most instances, of the lancinating pains of cancer, the gradual indolent growth of the tumor, and the absence of the offensive watery or sanious discharge, and also of pelvic adhesions. On pressure the uterus is found to be quite free in the pelvic cavity.

I have seen mistaken for cancer a polypus contained in the cavity of the uterus, which that organ had been endeavoring to expel for several weeks by violent contractions. On examining digitally, I found the neck of the uterus soft, dilated to the size of a half-crown, and behind it a regular globular surface, like that of an orange. The hemorrhage was abundant, but the blood was perfectly inodorous and pure. These conditions were sufficiently characteristic to leave no doubt as to the nature of the case.

In chronic metritis the uterus is partially enlarged, and the enlarged



region may present indurated nodosities. But these nodosities are perfectly smooth and regular on their surface, and are exquisitely sensitive to the touch—unless the inflammation have subsided and have terminated by induration, in which case there is an entire absence of uterine symptoms; whilst cancerous tumors are indolent or but slightly sensitive to pressure. With polypi the uterus is not firmly adherent to the pelvic cavity and adjacent organs, as is the case in confirmed cancer. Moreover, inflammatory indurations of the uterus present the exacerbations at the menstrual periods elsewhere described, which are not observed in cancer, and remain stationary for months and years; whereas, all cancerous growths, especially in the uterus, have a tendency to pass through the various stages of their development, and to decay within a limited period.

In nearly all the instances of uterine cancer, however, that are met with in practice, the disease is certainly first recognized in the neck of the organ. When thus discovered, it may be either in an incipient or in an advanced and ulcerated condition.

*Cancer of the Cervix in the Incipient or Non-ulcerated Stage.*

According to my experience, cancer in the neck of the uterus is almost invariably found in the advanced or ulcerated stage of its development before a female applies for relief. It would seem as if cancerous growths in this region gave such slight indications of their presence during the first period of their formation, and progressed so insidiously, that the attention of the patient, and of her medical attendant, is scarcely ever directed to the uterus.

My opinions on this subject, however, are widely different from those entertained by uterine pathologists, even the most recent; the incipient stage of cancer in the cervix uteri being universally described by them as of common occurrence in practice. The discrepancy, however, in the results of observation, is easily explained. From the descriptions given of the morbid changes, it is evident that the incipient stage of cancer is still confounded with the hypertrophied indurations of the uterine neck, of inflammatory origin, which I have fully described in a former part of this work. Writers on uterine pathology evidently have not yet shaken off the errors to which the Broussaian doctrines gave rise, especially on the Continent, in the early part of the present century, and not only still see a connection between inflammation and cancer—as cause and effect—which does not in reality exist, but even absolutely mistake for cancer the lesions and changes produced by inflammation.

The details respecting the intimate anatomical structure of cancerous growths which I gave at the beginning of this chapter, most incontrovertibly establish the decided and absolute difference in the anatomical characteristics of inflammatory and of carcinomatous formations—that they are, in fact, the result of two different morbid processes. Inflammation may, possibly, lead to the subsequent de-

velopment of cancerous growths—although even this is a question yet undecided—but the fact is undeniable, that the two morbid conditions are essentially different. I am, indeed, impressed with the belief, founded on clinical observation, that the more our diagnosis improves, the less frequent will be found what is called the “cancerous degenerescence” of chronic inflammatory disease.

Clinical experience has thus led me to modify the opinion I formerly entertained, in common with the rest of the profession, respecting the frequency of the cancerous degenerescence of chronic inflammatory tumors. During the many years that I have constantly been watching the progress of numerous cases of uterine inflammation, I have scarcely seen an instance of inflammatory disease thus degenerate. In some instances, I have been told in consultation, that the disease respecting which my opinion was required, although then evidently cancerous, had at first been merely inflammatory. In these cases, however, the diagnosis of my informants could not be relied upon, and the antecedents of the patient were also completely at variance with their view of the evolution of the morbid phenomena. On the other hand, nearly all the cases of cancerous disease that I have myself witnessed during the before-mentioned period, have been to me *undoubtedly such* from the time they first came under my observation.

It is these three facts: 1stly, the different structural nature of the two diseases; 2dly, the absence of any marked tendency in inflammatory disease to degenerate into cancer, as exemplified by my scarcely ever having recognized such degenerescence during treatment; and 3dly, the circumstance of my always finding cancer in an advanced and decided stage of its development—that makes me doubt the frequency of the connection of cancer and inflammation in the uterus.

That the anatomical characters ascribed\* to incipient cancer by uterine pathologists do not possess the meaning which is given to them is susceptible of easy demonstration. Thus, Sir Charles Clarke,<sup>1</sup> speaking of carcinoma uteri (p. 215), as distinguished from ulcerated cancer, says: “Two varieties of this disease are observed in the early stage (in the uterine neck). 1. There is a firm tumor, of a rounded form, springing from the surface of the cervix uteri, or imbedded in it, whilst the other parts of the uterus are perfectly healthy, except that its parietes are thickened as the disease advances, and that its cavity becomes larger than that of a healthy unimpregnated uterus. 2. Instead of any distinct tumor, the whole of the cervix of the uterus becomes larger and harder; and if this thickened part is examined

<sup>1</sup> Observations on the Diseases of Females attended by Discharges, 3d edition, vol. i. chapter xiv., on carcinoma uteri. At page 212, the appearances which carcinoma uteri presents in the neck of the uterus, on inspection after death, are described as follows: “When carcinomatous tumors are cut through with a knife, they offer a good deal of resistance and appear sometimes as hard as cartilage. The cut surface presents an appearance of white lines which run pretty regularly with regard to each other; but the directions of which vary according to the shape of the tumor.” This description applies equally well to fibrous growths or even to simple inflammatory hypertrophy of the uterine tissue.

after death by cutting into it, it puts on the same appearance which a true carcinomatous tumor possesses.

"The two cases proceed differently. In addition to the usual symptoms of carcinoma, there will frequently be found in the first variety of the disease some mechanical symptoms depending on the pressure made by the tumor upon the neighboring parts; which symptoms will be more or less severe, according to the size and situation of the tumor. In the second variety of the disease, these symptoms seldom exist; because the carcinomatous thickening of the cervix uteri rarely acquires a sufficient size to produce them. . . . .

"In women who live temperately the disease may continue for a long time without producing any symptoms, if any judgment can be formed from the cases of patients who apply for medical aid on account of symptoms under which they have not long labored. On examination, there is often found in such women a considerable alteration in the structure of the parts, which most probably would not have happened in a short time. The examinations made from time to time of patients laboring under this disease, who will consent to follow a proper regimen, *perpetually demonstrate the very trifling change which will take place in the complaint, even in the course of many years.* . . . .

"The os uteri (p. 226) will be found also to have undergone a change. It becomes larger than natural, still, however, retaining its original shape. This open or gaping state of the os uteri sometimes is sufficient to admit the extremity of a finger, which, when introduced into it, feels as if surrounded by a firm ring. The parts will sometimes have undergone all the changes of structure above related, when no local symptoms have been apparent, and when the disease has only been ascertained by an examination, suggested by the failure of remedies in relieving the supposed disease of the stomach or kidney. It is unusual for patients to be cut off during the carcinomatous state of the disease; when, however, this does happen, it is from the excessive discharges of blood bringing on a dangerous degree of debility.

"CHAPTER XV.—These symptoms are seldom dangerous, but they are very distressing to the patient. . . . . This local disease may remain *stationary*, or it may have its symptoms alleviated, so that the patient's life may be prolonged, and her comforts increased. (p. 228.) . . . . If the system is plethoric, *some blood should be taken from the arm.* . . . . Blood may also be taken from the hypogastric region or from the loins, *by cupping or by leeches*; and from time to time, upon any increase of uneasiness, this operation should be resorted to. . . . *The relief produced by topical blood-letting is great*, and often immediately felt. (pp. 229, 230.) . . . No attempt should be made to restrain the mucous discharge; but if it should be secreted in large quantity, it should be frequently washed away. (p. 235.) .

"In treating this disease, as no cure is known for it, the practitioner must be satisfied with palliatives, and not be anxious to restore the vigor of the body, which might aggravate the disease again. Still



let it be recollected, that by a strict attention to management, and an unwearied perseverance in the means suggested, *all the cases of the complaint may be relieved*; in many the further enlargement of the tumor, or progress of the thickening, may be prevented; and if the author was not afraid of deceiving himself, or of deceiving others, he would venture to express a belief that in a few instances the disease has altogether subsided. This surmise he offers with great diffidence. Perhaps the enlargement in the cases which have given rise to it was not of the true carcinomatous kind; perhaps the tumefaction arose from common inflammation of the part, attended by serous effusion into the cellular structure surrounding it. . . . . Certain, however, it is, that some cases have come to the knowledge of the author, and others have occurred in his own practice, *in which an enlargement of the cervix of the uterus, ascertained by examination, has disappeared, and together with it the symptoms connected with it.*

"If such cases were in truth carcinomatous (*and that they were so was the opinion of the practitioner*), the knowledge of them must afford a great consolation to persons suffering under this dreadful malady, and must act as an incentive to the employment of a mode of treatment suggested by reason, and confirmed by experience: a mode of treatment which, to say the least of it, has a manifest tendency to retard the progress of the disorder, and to prevent its conversion into ulceration." pp. 242—244.

Passing over intermediate authors, who all adopt, to a greater or less extent, the views of Sir Charles Clarke, we at once arrive at those, among the more recent writers on the incipient stage of cancer, whose opinions carry with them the greatest weight—Dr. Montgomery and Dr. Ashwell. Dr. Ashwell's views will be found in the third edition of his *Treatise on the Diseases of Women*, and may be fairly supposed to represent the present state of science on this important subject. In order to deal fairly by Dr. Ashwell, I shall quote his own words as follows (p. 370).

"Before entering more fully into the history and symptoms (of cancer), I shall briefly pursue this interesting inquiry, commencing my observations by reiterating an opinion formerly expressed by myself, *Guy's Hospital Reports* (January, 1836, p. 153); that hard tumors of the cervix, and indurated puckering of the edges of the os (conditions which frequently terminate in ulceration), may be melted down and cured by the topical application of iodine, aided by the recumbent posture, abstinence from sexual intercourse, cupping of the loins, a mild, unstimulating, and often a milk diet, gentle aperients, narcotic injections into the vagina, and the almost daily use of the warm hip-bath.

"It has been doubted whether I have sufficiently defined the nature of these hard tumors; whether, in fact, they are to be regarded as cancerous, or merely as congestions and ulcerations, which, not being malignant, are capable of cure. I believed at the time I made these observations, *and I*

*still adhere to the opinion*, that they were malignant tumors; but that their full development was prevented, at this early period, by the treatment pursued; for I have long been convinced that cancer of the womb may be arrested in its early stages by the removal of the pathological state of which it is the consequence. At page 145 of the first volume of the *Reports*, the following observations occur: 'To suppose or to call these hard tumors scirrhus, cancerous, or malignant, would, in some minds, instantly excite prejudice. If I am censured, then, for using the term "hard," I justify myself by saying, that it is the best and least controvertible expression with which I am acquainted. It is scarcely possible to avoid attaching a precise and perhaps an erroneous idea, to such terms as scirrhus, cancerous, or tubercular induration.' The denomination, 'hard tumor,' has this advantage; it assumes only a degree of hardness or firmness, beyond that which is healthy and natural, leaving the precise cause or nature of such hardness to be decided by the result of the treatment, or to the further progress of the disease. Such a condition may be the effect of chronic inflammation only, or, if of malignant character, it may yet be very distant from that degree of malignancy which will resist all treatment.

"Nevertheless, I am persuaded, if many of these structural changes (in the os and cervix) were examined without reference to their treatment at all, and especially by iodine, they would be pronounced to be scirrhus or malignant alterations. I am not, however, pertinacious on this point: it is not a matter of practical moment; although my conviction decidedly is, that these changes, whatever may have been their precise character at the commencement of the iodine treatment, *would, without that treatment, have proceeded on to ulceration, and thus have left the patient with but slight chance of recovery.*" . . .

Dr. Ashwell states (p. 377) "that the os and cervix may present, in the incipient stage of cancer, three kinds of induration—1. The rima or circumference of the uterine aperture may be wholly or only partially hardened and puckered. 2. The cervix may be hard throughout its whole structure: or 3. Hard tumors may be deposited in any portion of it.

"The practitioner, however, is to remember, that independently of disease (cancerous), there may be—1. A large and firm cervix; 2. A capacious, patulous, and firm os; 3. An os fissured and unequally hard.

"The distinction (pp. 382–83) between malignant affections of the uterus and those of simple character, is not always easily determined. There are cases of engorgement, hypertrophy, and induration, in which the finger introduced into the vagina discovers an increase of volume, either in the entire uterus, the cervix, or the body only. Now, as there are changes induced by cancer, and as there may be slight or severe pain in all the affections, it is important to point out the diagnostic characters.

"Simple engorgement, hypertrophy, and induration, are less hard, of more uniform surface, often unnaturally warm and tender on pres-

sure, whatever part may be affected; while even in the early stages of cancer, the surface is irregular and rough, free from tenderness, and there is often a weight, coldness, and stony induration.

"In cancer, and the simple affections already mentioned, there is a marked difference in the mucous membrane covering the cervix. In the former, it is of a dull white or slightly gray color; in the latter, it is much redder, and more vascular, and often morbidly sensitive.

"Hypertrophy, or common induration, may affect either the body or cervix separately, or at the same time; but never in so isolated a form as to give rise to distinct and separated nodules of tuberculous induration, like carcinoma. Scirrhus develops itself slowly, the former affections rapidly: frequently reaching a size in six or eight weeks which scirrhus would require as many months to attain. . . .

"Simple enlargements are generally easily cured by the means already pointed out, while scirrhus, in its earliest formation, requires a much longer period. Common induration is nearly stationary. Malignant disease, although slowly, is gradually progressive, and by affecting neighboring tissues, transforms them, and sooner or later by their consolidation, destroys the natural mobility of the uterus. . . .

"The exact prognosis depends very much on the stage of the disease, and on the belief of its curability. . . . *It is a disease capable of being arrested, if not cured, in its earliest periods.* . . . The assiduous and early employment of prophylactic measures may, if it does not entirely arrest the malady, protract it through several years."

The means of treatment recommended by Dr. Ashwell, and considered by him as occasionally curative, are—"Rest in the recumbent posture, a simple unstimulating diet, sexual abstinence, mercurials, iodine, and iron, local blood-letting by cupping, leeches, and scarification; hip-baths, blisters, setons, the topical use of iodine, and the nitrate of silver."

The above extracts convey a comprehensive summary of Dr. Ashwell's views respecting cancer of the neck of the uterus in its incipient stage. It is impossible to read his first paragraphs without being struck with the doubt and hesitation by which they are characterized. Dr. Ashwell, at last, however, arrives at the conclusion that "hard tumor"—the same condition which Sir Charles Clarke has described—is really malignant, *although susceptible of being arrested, or even cured, by iodine, &c.* He subsequently attributes, without hesitation, to cancerous disease the more decidedly morbid changes which he describes, and also considers them *curable* by antiphlogistic and alterative treatment.

The same views are entertained by Dr. Montgomery, the eminent Regius Professor of Midwifery at Dublin, whose opinion on any subject connected with the diseases of females must always be received with the greatest deference. In an essay on the incipient stage of cancerous affections of the womb, which appeared in the *Dublin Medical Journal* (January, 1842), this distinguished physician asserts the possibility of recognizing and curing cancer of the cervix in its in-



ipient stage. The following extracts will show on what data he founds this opinion :—

"I am perfectly convinced, from many years' observation, that something may be done to stem, at its source, the torrent of agonies that will otherwise overwhelm the patient; nay, I firmly believe it may, in many instances, be altogether turned aside, and the victim be rescued from the sad fate impending over her. . . . I am satisfied that there is a stage of cancer uteri which precedes the two usually described by authors; a stage in which the nature of the disease may be detected, its further progress arrested, and its germs arrested; and the reason why this stage is not more generally recognized is, that the accompanying symptoms are frequently so slight as to attract very little the attention of the patient, and thus are suffered to remain without treatment, until a profuse hemorrhage, or some violent fit of pain, sounds the alarm, and then, on examination, the disease is found to have passed into its second stage; the surrounding tissues are indurated and consolidated with the organ concerned, and no human means hitherto discovered can do more than blunt the thorns thickly strewn across the path, which the sufferer must tread to 'the house appointed for all living.' (pp. 433, 434.)

"The margin of the os uteri is found hard, and often slightly fissured, and projects more than usual, or is natural, into the vagina, and is irregular in its form. In the situation of the muciparous glands, there are felt several small, hard, and distinctly defined projections, almost like grains of shot or gravel, under the mucous membrane. Pressure on these with the point of the finger gives pain, and the patient often complains that it makes her stomach feel sick. The cervix is, in most instances, slightly enlarged, and harder than it ought to be. The circumference of the os uteri, especially between the projecting glandulæ, feels turgid, and to the eye presents a deep crimson color, while the projecting points have sometimes a bluish hue. In two cases of women who died, one of fever, and the other of pneumonia, in a more advanced stage of this condition of the os uteri, the substance of the uterus was found considerably increased in size and thickness, and was intensely vascular. There is no thickening, or other alteration of structure, in any part of the vagina, at its conjunction with which the cervix uteri moves freely; nor is there any consolidation of the uterus with the neighboring contents of the pelvis; in fact, the morbid change appears to be, at first, entirely confined to the os uteri, and lower portion of the cervix.

"This stage of the affection is, in many instances, *very slow*, lasting sometimes *for years*,<sup>1</sup> before the second and hopeless stage is established; during this time the patient experiences only comparatively slight and transient attacks of pain, or perhaps only sensations of uneasiness referred often to the situation of one or other of the ovaries, or about the os uteri, with anomalous tingling along the front and inside of the

<sup>1</sup> The italics in both pages are Dr. Montgomery's.

thighs; these last for a few hours, or a day or two, and then disappear, perhaps for weeks, but again and again return in the same situation, and for a long time are not increased in severity. (pp. 436, 437.)

"Sufficient observation has fully satisfied me that, in the great majority of instances, the first discoverable morbid change which is the forerunner of cancerous affections of the uterus, takes place in and around the muciparous glandulæ or vesicles, sometimes called ova Nabothi, which exist in such numbers in the cervix and margin of the os uteri; these become indurated by the deposition of scirrhus matter around them, and by the thickening of their coats; in consequence of which they feel *at first* almost like grains of shot or gravel under the mucous membrane; afterwards, when they have acquired greater volume by further increase of the morbid action, they give to the part the unequal, bumpy, or knobbed condition, like the end of one's fingers drawn close together. When this second stage (usually described by writers as the first) is established, all means hitherto devised have failed in producing any permanent beneficial effect." (p. 439.)

Speaking of treatment (p. 441), Dr. Montgomery says: "In almost every instance the treatment should be begun by *the local abstraction of blood*, either by cupping, or by leeches applied directly to the os uteri, or as near as possible to the organ; and their application will in most cases require to be frequently repeated, and should be accompanied by the free use of anodyne fomentations." To local depletion Dr. Montgomery adds, "mercurials, iodide of iron, arsenic, counter-irritation, the warm bath and the hip-bath, emollient vaginal injections, light diet, and regular living."

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The copious extracts which I have given from the works of Sir Charles Clarke, Dr. Ashwell, and Dr. Montgomery, three of the most esteemed uterine pathologists of the present day, show that cancer of the neck of the uterus, in its incipient stage, is generally considered to be recognizable by its physical characters, and capable of arrest, or even cure, in the majority of instances. Cases are brought forward, by these and other authors, to substantiate this position.

Although I feel the greatest respect for the scientific attainments of the physicians whose opinions I have quoted, as likewise for those of other eminent pathologists who support the same views, I am compelled to state my conviction that their opinions are not founded on a true and correct interpretation of the facts which they have observed. I firmly believe that the forms of disease which they have described as the first stage of uterine cancer are merely and solely modifications of inflammatory action in the neck and mouth of the uterus, totally distinct from cancerous growths, and having little, if any, tendency to malignant degeneration. I also believe that the cases brought forward to illustrate the physical diagnosis and the curability of cancer are simply instances of inflammation.

My opinions on this subject have not been hastily formed. They

are the result of mature deliberation—of a conscientious analysis of all the cases of uterine disease, malignant or non-malignant, which I have seen for many years; and their truth must be acknowledged by all who have attentively perused the description I have given of inflammation and its sequelæ—hypertrophy and induration of the neck of the uterus.

Setting aside all interpretation of anatomical changes occurring in the cervix uteri, every one conversant with the pathology of cancer must confess, that if the disease described in the extracts which I have given from the before-mentioned distinguished pathologists is really cancer of the neck of the uterus, cancer in that organ must be a totally different malady to what it is in all other parts of the body. Cancer in other regions is not, most certainly, a disease which can be *nearly always arrested and often cured by antiphlogistic and alterative treatment*, even when recognized in its early stages.

We will, however, briefly analyze the physical data on which these views are founded; not forgetting that cancer is a morbid condition which it is next to impossible to recognize by its external characteristics alone, as we have seen in the first part of this chapter. Consequently, unless morbid conditions in the cervix uteri resemble in their progress, treatment, and results, at least in the majority of cases, cancer in other parts of the economy, we cannot rationally attach to them the malignant character.

The principal anatomical changes stated to characterize cancer in its incipient, non-ulcerated stage, by the three authors I have quoted, are as follow: A firm tumor of a rounded form, springing from the surface of the cervix, or imbedded in it, or general enlargement and hardness of the cervix: an open, gaping os, which admits the extremity of the finger: perfect freedom of the vagina from thickening or disease.—(SIR CHARLES CLARKE.)—Hard tumor of the entire cervix; puckering and hardening of the edges of the os, and hard tumors deposited in any portion of the cervix; a dull white or slightly gray color of the mucous membrane covering the cervix.—(DR. ASHWELL.)—Margin of the os hard, slightly fissured, projecting into the vagina, and irregular; in the situation of the muciparous glands are felt several small, hard, and distinctly defined projections, like grains of shot, painful on pressure; cervix slightly enlarged and harder than natural; circumference of the os turgid, of a deep crimson color, the projecting points being bluish; no thickening or disease of vagina, or consolidation of the uterus to the pelvic contents.—(DR. MONTGOMERY.)

All these are anatomical conditions which may be produced in the neck of the uterus, and are daily produced, by inflammation and puerperal laceration of its orifice.

The enlargement of the cervix described by Sir Charles Clarke is evidently that produced by inflammatory hypertrophy, and the two chapters which he devotes to "carcinoma of the uterus, and its treatment" in the non-ulcerated stage, are clearly descriptive, in almost



their entire extent, of inflammatory hypertrophy alone. The "form" in which a firm tumor springs from the surface of the cervix is probably hypertrophy limited to one lip, whilst the form in which there is enlargement and general hardness of the cervix is general hypertrophy. If any evidence beyond the mere description of the state of the neck of the uterus were wanted to indicate the inflammatory nature of these changes, it would be found in the open, gaping state of the os, admitting the end of the finger. This is the characteristic condition of the os uteri in inflammatory hypertrophy.

Dr. Ashwell, falling into the same error, admits the malignant nature of simple "hard tumor of the cervix," as he designates the condition described by Sir Charles Clarke. He considers, also, puckering and hardening of the edges of the os, with the presence of hard tumors in any region of the cervix, to be characteristic of cancerous disease. Dr. Montgomery's description of incipient cancer seems limited to the latter changes.

Puckering of the edges of the os has always appeared to me to be merely the result of laceration of the os and cervix during labor, and of subsequent inflammation of the lobules into which the margin of the os and cervix is thus accidentally divided, as I have elsewhere explained. (p. 166.)

The cervix is, in reality, frequently lacerated; and if Dr. Ashwell has not observed this to be the case (see p. 433 of his work), it must be that, on the one hand, he has not analyzed with sufficient care the results furnished by digital and instrumental examination, and that, on the other, he has mistaken for incipient cancer the cases in which the lacerations, not having healed, have led to a puckered, indurated state of the edges of the os. When laceration occurs in abortion or labor, if the parts involved do not return to a healthy state, but remain ulcerated and inflamed, lobes are formed around the os, separated from one another by fissures more or less deep. These lobes, although merely inflamed, may become of a stony hardness; and when this occurs, the hardness is very erroneously supposed to characterize scirrhus, and is cited as an evidence of the malignant nature of the disease. If the lobes thus formed and indurated around the os are considerably hypertrophied, they present exactly the sensation to the touch which Dr. Montgomery compares to the ends of the fingers brought closely together, and which he considers to characterize the second stage of cancer.

I have now under my care (1847) a lady, forty-five years of age, whose cervix presented exactly this "feel" when I first examined her, a year ago. It seemed as if the finger reached a cluster of hard nodosities, just like the ends of the five fingers approximated, and these nodosities were of stony hardness. This lady had been pronounced to be laboring under scirrhus of the cervix uteri, by two eminent authorities, eighteen months previously. I found, however, the vagina perfectly healthy, and no uterine adhesions; the lobules were all regularly clustered round an axis, which was the open ulcerated os.

They were separated one from the other by ulcerated sulci or fissures, which radiated regularly from the centre of the os uteri, like the spokes of a wheel. The discharge, although muco-sanguinolent, was not offensive to the smell. On inquiry, I could trace the origin of the uterine symptoms and depraved health to a bad labor which had occurred six years previously. The shoulder presented, and she was delivered by turning. All her previous confinements, nine in number, had been favorable. I at once concluded that the disease was purely inflammatory, and was able to dispel the gloomy anticipations of the patient and her friends. This local hypertrophy is now nearly subdued by cauterization with the potassa cum calce, although the patient has been treated under great disadvantages. Owing to her residing at a distance from town, she has never, until lately, been able to remain under treatment for more than two or three weeks at a time.

I may observe, with reference to this case, that the regular radiation of the fissures and hypertrophied lobes which constitute the puckering, may be considered positive evidence of their originating in laceration of the cervix. Indeed, I have never observed it, except in women who have had children, or have miscarried. Were the puckering the result of cancerous growths, it would evidently be quite irregular, as would also be the lobes and nodosities similarly formed. At least such is the case with cancerous growths in other parts of the body, and in the cervix itself, in the advanced and ulcerated stages of cancerous disease.

The isolated nodosities described by Dr. Montgomery may certainly be cancerous nodules, but they may also be merely muciparous glands inflamed and indurated. In fact, their being of a crimson hue would seem to show that such is really the case, inasmuch as cancerous growths in mucous membranes are rather characterized by a bleaching or whitening of the tissues which they attack.

Thus a critical analysis of the anatomical changes ascribed to incipient cancer shows that, on the one hand, these changes present nothing special, nothing that can be said to characterize as malignant the case in which they are found, whilst on the other it shows that they are constantly met with as the result of inflammation. Let us now see if the malignant nature of the disease can be recognized by its history when considered such on the faith of the above-mentioned data.

According to the authors whom I have quoted, the form of cancer which they thus describe may exist for years, without giving rise to any other symptoms than those which are produced by the pressure of the tumor on surrounding organs. If symptoms do exist, they are: mucous or hemorrhagic discharges, and sympathetic reactions on the stomach, brain, general nutrition, &c. The progress of the disease, even when recognized, is extremely slow: it may continue in this stage of its development for many years, or even be cured completely under judicious treatment. The means of treatment found successful in arresting and curing the disease are principally: *local*

*blood-letting by leeches or cupping*, seconded by alterative and tonic medicines, rest, light diet, abstinence from stimulants, and from sexual excitement.

Can any unprejudiced practitioner recognize the first stage of cancer in a disease, the progress and treatment of which is generally, indeed nearly always, such as I have just recapitulated? Does not the entire history of these morbid uterine changes, as given above, tally, on the contrary, with that of chronic inflammation generally, in whatever part of the economy located? Chronic inflammation may, as is generally known, remain for years in an indolent state, giving but slight local evidence of its existence, or merely reacting on the general health. Moreover, the influence of local blood-letting, iodine, mercurials, and counter-irritants on chronic inflammation, whether situated in the uterus, breast, or in any other organ or region—has become an axiom in therapeutics. Again, who has ever witnessed incipient cancer in any other part of the body *being arrested and cured*, not exceptionally, but as the rule, by antiphlogistic and medicinal agents? And yet there are parts of the body, such as the breast, in which cancerous growths are *all but invariably recognized and treated from the first*. In this region, however, they all but constantly prove rebellious to medical treatment, generally returning even after total extirpation.

Must we, then, conclude that cancer is a different disease in the neck of the uterus to what it is in other parts of the human economy? The same in its secondary or ulcerated stage, why should it be different in the incipient or non-ulcerated period?

The probability is, that cancer is just as intractable in the uterus as in other organs, and that it passes even more rapidly through the various stages of its development. Cancerous growths, as we have seen, are tissues, *sui generis*, the results of a special form of exudation, having a peculiar vitality of their own, and a tendency to extend and to pass through the various phases of their pathological existence within a limited period. Indeed, according to Professor Bennett, in no organ does this tendency to extend, to enlarge, to soften, and to ulcerate appear more decided than the womb.

Although the intimate structure of cancerous growths has been but recently revealed, yet the tendency of malignant formations to extend, and to destroy life in a limited period, has been known for ages. This tendency has been strikingly illustrated by some researches, made, I believe, by M. Malgaigne, a few years ago, in order to ascertain the influence of operations on the duration of life. M. Malgaigne collected the details of above five thousand recorded instances of cancerous disease, about half of which had been operated upon. The other half was composed of cases of internal cancer, or cancer not operated on, or situated in regions in which no operation could be performed. From the analysis of these cases, he found that the average duration of life in the patients who had been operated on from the time of the discovery of the disease was twenty-three months; whereas, in the cases in which no operation has been per-



formed, the average time that elapsed between the discovery of the disease and death was twenty-one months. The results, however, arrived at by Malgaigne merely embodied in figures the generally received doctrines of the profession on this subject.

Notwithstanding my lengthened analysis of the opinions of Sir Charles Clarke, Dr. Ashwell, and Dr. Montgomery on this very important subject, it would be incomplete were I not to reproduce the cases which they bring forward in order to substantiate their assertions.

The two following are the principal cases narrated by Sir Charles • Clarke :—

CASE 1.—A married lady, about forty years of age, fell under the care of Mr. Pennington and the author. On examination a tumor was found at the back part of the cervix of the uterus, of the size of a pullet's egg; it was painful to the touch, and the usual symptoms of *carcimona*, in its first stage, were present. The horizontal posture was strictly enjoined, and followed; blood was taken from the sacrum repeatedly by cupping; the bowels were kept open by mild purgatives, and decoction of sarsaparilla was ordered to be taken with small doses of *extractum conii*. Under a long-continued course of such treatment the symptoms all ceased, the patient was enabled to join her family, which she was incapable of doing at first. The author has seen the patient very lately, nearly three years having elapsed since he was first consulted; she reports herself well, and has no reason to believe that any disease exists.

CASE 2.—A widow lady about forty-eight years of age, who had been a patient of Mr. Bond, at Brighton, was attacked with such symptoms as usually attend disease of the uterus, in the cervix of which a tumor was found, on examination as large as a French walnut. It was exceedingly tender to the touch, whether the finger was introduced into the vagina, or into the rectum. The means employed in this case were, repeated cupping, abstinence from animal food, the recumbent position (the upright position or exercise being always attended by considerable pain), the exhibition of *extractum conii* and soda, with the use of the hip bath, and the occasional employment of mild aperients. After this treatment had been pursued during several months, the uterus was again examined both by Mr. Bond and myself; this tumor had subsided, and the patient expressed very little pain when the former seat of it was pressed upon. (p. 249.)

The *non-cancerous* nature of the cases is so clear—they are so evidently mere illustrations of inflammatory induration and hypertrophy of the cervix, subdued by antiphlogistic treatment, that it is quite unnecessary to analyze them.

The inflammatory nature of the cases of Dr. Ashwell and Dr. Montgomery is equally obvious. I will, however, enable my readers to judge for themselves, by reproducing them in a slightly abridged form.

*Dr. Ashwell's Cases of Incipient Cancer in the Uterine Neck. (Page 394, et seq.)*

CASE 62.—Elizabeth —, aged forty-nine, married; six children and two miscarriages. In early life menstruation irregular. Her age indicates that the catamenia are about to cease; and the history of her symptoms during the last year confirms this opinion. The menses have been very irregular, both in quantity, quality, and time of recurrence. A profuse leucorrhœa alternates with the catamenial flow. On admission, she complained of lumbar pain, central pains in the

lower abdomen, of a pricking and shooting character, which have existed during the last three or four months. An offensive muco-sanguineous discharge (being the catamenia mixed with leucorrhœa) flows from the vagina; the constitutional symptoms are slight. On examination: The mucous lining of the upper part of the vagina is relaxed and hot; and above this, *a hard body is felt, occupying the superior part of the cervix, and the lower portion of the posterior paries of the uterus. The os is hardened and fissured.* After a short preliminary constitutional treatment, and the maintenance of the recumbent position, she was ordered iodine internally and locally. This course was adopted on the 2d of June, and at the commencement of August all appearance of the tumor and the unhealthy condition of the os had disappeared, and she left the hospital cured.

CASE 63.—Jane —, aged twenty-five, admitted Sept. 5th, 1835. Is the mother of three children, the last of whom was born three months since. Her labors have been undeviatingly easy, and her general health uniformly good. Since her last confinement the abdomen has been considerably distended, and occasions great suffering when pressed. This enlargement is the result of an accumulation of flatus. In addition to this tympanitic condition, which is associated with impaired appetite, occasional nausea, and constipated bowels, she complains of a sense of weight and bearing-down in the lower abdomen, which is aggravated by the erect posture, or by walking. After an examination, Dr. Ashwell reported: "*I find a tumor of scirrhus hardness situated low down, on the posterior part of the cervix of the uterus, but not implicating the lip. This growth presses on the rectum, and thus accounts for the constipation.*" Treatment—assafœtida injections, tonics, iodine. On examination, October the 24th, Dr. Ashwell reported that "no vestige of the tumor was present, and that the os and cervix were perfectly healthy." During the treatment, her symptoms were those arising from mechanical pressure on the tumor, which gradually subsided with its resolution.

CASE 64.—Sarah —, aged thirty-two, admitted 24th January, 1835. Married five years ago, and has two children. Health in early life good. For some time before marriage, and ever since, has had a leucorrhœal discharge. From the same epoch the catamenia have been profuse, frequent in their recurrence, and of long duration. Latterly has suffered constantly from languor and lumbar pains. Her last confinement, thirteen months previous, was followed by passive hemorrhage, which reduced her constitutional power, and engendered debility with loss of flesh. Latterly the menses were suppressed for three months, and she supposed she was pregnant. They re-appeared, however, a fortnight ago. Dr. Ashwell, after examination, reported: "*The uterus is enlarged generally; its lips and cervix are swollen and soft; and there is a considerable quantity of leucorrhœal secretion bathing the parts posteriorly. Just above, and encroaching on the cervix, at the posterior part of the uterus, is a tumor about the size of a hen's egg, scarcely hard enough for scirrhus.*" This patient was treated during six weeks by the internal administration of iodine, and its local application to the neck of the uterus. On an examination being then instituted, the tumor on the posterior paries of the uterus had disappeared. The use of the iodine was unattended with any deleterious effects. She had assumed a more healthy and robust, rather than an emaciated appearance; and during its exhibition she did not complain of headache, or undue cerebral excitement.

CASE 65.—Elizabeth —, aged forty-six; admitted under Dr. Ashwell early in 1830. She has borne several children, and till lately has enjoyed good health. For the last few months, however, there has been vaginal discharge of a muco-purulent, and occasionally of a sanguineous character. She suffers much from central pains, especially from pain deep down behind the pubes; her appearance is cachectic and unhealthy; the catamenia are irregular. On examination, the cervix was found *excessively hard and enlarged, without any distinct deposit of hard material; the edges of the os puckered and uneven, and their surface slightly broken; ulceration appears to be just commencing.* Iodine treatment. This case continued under treatment for nearly twelve months; but as it was only one out of many similar examples, there was no accurate note preserved of its progress towards cure; nor would it have been reported at all, if the patient had not acci-

dentally presented herself in November, 1835, in the out-patient's room, and thus afforded Mr. Tweedie, who originally had charge of the case, and myself the opportunity of carefully examining the os and cervix. All vestiges of induration, puckering, irregularity, and abrasion of surface have disappeared: and with the exception of a leucorrhœal discharge, the *parts* may be pronounced entirely healthy. I have seen this patient very lately, and I can still report the parts to be as sound as they were when the treatment was first discontinued.

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How a practitioner who has seen so much of uterine disease as Dr. Ashwell could possibly publish as illustrations of incipient cancer such cases as the above is to me matter of astonishment. The most cursory perusal must at once establish them as simple instances of inflammatory induration. The first three, more especially, present scarcely any of the symptoms which Dr. Ashwell himself describes as characterizing cancerous disease.

CASE 62 is an instance of laceration of the os from parturition, followed by inflammatory induration and hypertrophy of the anterior lip, in a woman, mother of a large family. The antecedents and symptoms are purely those of inflammatory disease. In *two months* she was *quite well* under the influence of rest and iodine.

CASE 63 is an illustration of chronic inflammatory induration of the posterior region of the cervix and uterine wall, following a natural confinement in a healthy young woman of twenty-five. The symptoms were merely those of local inflammatory hypertrophy, and the general sympathetic reactions which are observed in such cases. She got *quite well in six weeks* under the influence of rest, general treatment, and iodine.

CASE 64 is one of inflammatory swelling of the uterine neck, with inflammatory induration of the root of the cervix posteriorly, in a married woman, aged thirty-two, who had for some years presented symptoms indicating the existence of inflammatory disease of the cervix. These symptoms had gradually increased since the last confinement, thirteen months previous. Had she been examined instrumentally, and the lips of the os opened, inflammatory ulceration would probably have been found within. This patient got apparently well in *six weeks* under the same treatment as the other.

CASE 65.—This patient presented a condition which at first sight might appear suspicious, but the data which I have laid down for the elucidation of these more obscure cases at once prove the inflammatory nature of the disease. The cervix was hard and enlarged, the edges of the os puckered and uneven, and ulceration existed. This, however, as I have stated, is the condition in which we find the os and cervix, when the lacerations which often occur after labor do not heal, and the intervening lobes or lobules, as also the cervix itself, become indurated and hypertrophied. The antecedents and symptoms were purely inflammatory. There is therefore no reason for surprise that she should gradually improve under treatment, and eventually become perfectly free from local disease.



The fact of Dr. Ashwell not being able to find any more characteristic cases than these to illustrate the incipient stage of cancer, would alone suffice to invalidate his description of this phase of the disease. It may be remarked that several of these cases present laceration of the cervix, a lesion that I consider of frequent occurrence as the result of labor, an opinion strenuously repudiated by Dr. Ashwell. (p. 433.)

Let us now see if Dr. Montgomery's cases are more conclusive.

*Dr. Montgomery's Cases of Incipient Cancer in the Uterine Neck.*  
(Page 444, et seq.)

CASE 1.—Mrs. S——; seen 24th August, 1833. She was in her forty-seventh year, had had six children, and had encountered much domestic anxiety. She was suffering severe pain for the last nine months in the region of the uterus, in the small of the back, and down the thighs, with occasional profuse hemorrhages, alternating with sero-mucous discharges. Vaginal examination detected well-marked morbid alterations in the uterus, the orifice of which was *irregularly notched, tumid, and with several nodules of scirrhus hardness projecting all round its margin*: and the posterior wall of the cervix was so much thickened, that when felt from the rectum, there was a distinct prominence of the part, with very painful sensibility. She had lost her appetite, was losing her flesh, got little or no sleep, and was in great distress of mind about the state of her health. The treatment was commenced by leeching, and the use, both internally and externally, of hydriodate of potash and iodine, and of anodynes. Subsequently, the symptoms not yielding, her system was brought moderately under the influence of mercury, and so kept for some time. Lastly, she took carbonate of iron, with hyoseyamus and conium. Counter-irritants were used; the leeching was frequently repeated; the hip-bath was tried, but it so decidedly made her worse, that it was given up. After several months of continued treatment, she was perfectly cured of the uterine affection, and has now been well for more than seven years.

CASE 2.—Mrs. B——, aged thirty-five years, was a member of a family amongst whom there had been a very extraordinary predisposition to cancerous affection. She had had three children, and one of her labors was severe. When I first saw her, which was in May, 1837, she complained of lancinating pains in the loins, back, and thighs; dysuria, bearing-down, with irregular, sanguineous, and other discharges; and, on examination, the os uteri was *tumid, uneven, gaping a little, with its margin irregularly nodulated: and in one spot there was a deep cleft, as if the part had been torn*. There was no discoverable increase in the volume of the uterus, nor any consolidation of it with the surrounding parts. Treatment: Mercury, iodines, baths subsequently, the symptoms returning after temporary improvement, repeated application of leeches to the os uteri, and externally, iodine, iron, counter-irritants. . . . The result was, in time, the complete removal of the complaint. I am now informed, by her medical attendant from the country, that she continues perfectly well.

CASE 3.—Mrs. G——, thirty-five years of age, without children; seen November, 1838. Complaining of sharp, lancinating pains, shooting through the centre of the pelvis into the small of the back, and along the loins in front, especially at the left side, which was very tender on pressure, where the pain appeared to pass over along with the anterior round ligament of the uterus, and down the thigh and leg, accompanied with numbness and even decided lameness, and loss of power of the limb. There were irregular sanguineous and other discharges, with irritation of the bladder. Her appetite was very much impaired, and she was losing flesh. Her sleep was broken, partly by the pain she suffered, and partly also by her intense anxiety of mind about the state of her health. On examination, I found a fulness in the left iliac hollow, with considerable tenderness on pressure, but I could not detect any defined tumor. The os uteri was irregular in its form. Its margins

hard, and rendered very uneven by the projection of several well-defined small nodules, having all the firmness of true scirrhus, and *very sensitive to pressure*, which she said drove the pain out through her back into her left side and thigh, and up to her stomach, giving her *a sensation as if she were about to vomit or retch*. The lower part of the cervix uteri was a little increased in volume, and when seen through the speculum, *was almost purple from vascular congestion*, and the temperature of the part was decidedly above the natural standard. Treatment: *Leeches applied to the os uteri and externally*, blisters, and other counter-irritants: mercury, iron, iodine, baths, and tonics. There was such a decided amendment by January, that she went home, and the treatment was directed by letter until April, 1839, when she came to town, and I found the os uteri almost restored to its healthy state, and six months afterwards it was completely so, and still continues, of which I satisfied myself whilst writing these observations, November, 1841.

CASE 4.—One other case, in which the symptoms were well marked, I shall only refer to, for the purpose of mentioning, that since the removal of the affection the lady has borne three children.

CASE 5.—Early in 1839, I saw a lady, aged above forty, who had been more than two years laboring under this disease, during which time she had been pregnant, and prematurely delivered, and was again so a second time when she came to town to consult me. Each time pregnancy was followed by a great increase of her sufferings; and when that period arrived at which distension of the lower half of the cervix began, the irritation became so great that labor was prematurely excited. I understand that she has been pregnant a third time, with the same result.

CASE 6.—In October of the same year, I saw another lady, in whom this condition had evidently existed for some months, and who, after submitting to treatment for a short time in town, became pregnant soon after her return to the country, and went her full time. (Dr. White, under whose care this lady was subsequently, sent to Dr. Montgomery the following account :) When Mrs. — left Dublin, about two years since, she continued for about three months as you then saw her, after which she became pregnant. During the early part of her pregnancy, she appeared to get in better health, except that the lancinating pains continued; and for the last two months her legs became numbed, and she was unable to walk. At the time of her delivery I could feel the right ovary enlarged and uneven; the os uteri was thickened, hard, and uneven, and there was considerable hemorrhage, which continued for some hours, in consequence of the imperfect contraction of the uterus. Since then, now a year ago, she has been gradually growing worse; the menses have appeared regularly, but more profuse than natural, and there has been constant fluor albus. For the last month, the discharge has become sometimes very abundant, sanious, and offensive; at other times it is ichorous, with a yellowish tinge. *The os uteri is patulous, uneven, and hard*, and there is considerable tenderness in the hypogastrium, particularly at the right side; the legs are quite paralyzed; she is almost entirely confined to bed, and the pain is very violent. For the last two months she has had a constant spitting of mucus, which is very distressing. The right ovary can be felt through the integuments, but has not increased in size for the last year, but I think the uterus has. As to the treatment, it has been latterly chiefly with a view to relieve suffering. No plan of treatment that has been as yet tried with her appears to have any useful effect.

CASE 7.—A woman, aged forty-five, died of carcinoma recti, under Dr. Greene's care, in the Whitworth Hospital, and on examination, while the fundus and body of the uterus were found quite free from disease, the lower part of the cervix and the os uteri presented precisely the characters I have described, especially that of the feel, as if there were grains of shot, or sharp gravel imbedded in its substance.

These cases are of rather more doubtful import than those of Dr. Ashwell, but on a careful scrutiny, and on testing them by the diagnostic rules which I have laid down, their inflammatory nature becomes evident.

CASE 1.—The patient, the mother of six children, had suffered from

the symptoms which characterize inflammatory ulceration of the cervix for *nine* months. The os uteri was tumid, and presented nodules of scirrhus hardness *all around* its margin. These symptoms gradually gave way to *frequent leeching*, to counter-irritation, and to alterative medicines.—This is the history, and these are the symptoms and treatment, of laceration of the cervix, and of subsequent inflammatory induration of the lobes formed by the lacerations.

CASE 2.—Here also the antecedent general and local symptoms are those of inflammation of the cervix, and the physical changes are merely those usually produced by laceration, inflammation, and induration of the margin of the os. I may remark that the lancinating pains mentioned in this case, are in no respect confined to cancerous affections of the uterus; for they are equally common in inflammatory disease. The os uteri, which was “tumid, uneven, gaping a little, with its margin irregularly nodulated, presenting in one spot a deep cleft as if torn,” had evidently been severely lacerated in a previous confinement. The patient got well under the influence of *persevering local depletion, internal and external*, and under the use of tonics and alteratives.

CASE 3.—This patient is stated to have had no children, but it is not said that she had had no abortions—a very important point. If not, the irregular form of the os uteri, and the hard, well-defined nodules of its margin, were certainly very suspicious, as they could not have been the result of laceration. Their inflammatory nature, however, is rendered evident by their purple hue, and great vascular congestion, and by their *extreme sensitiveness on pressure*, which produced absolute retching. The *non-ulcerated* tubercles of cancerous deposits, as seen on the cervix uteri of women who present the disease in its advanced ulcerated stage, are generally of a *whitish hue*, and all but quite *indolent on pressure*. Here also the cure was effected by *leeches applied to the os uteri*, by counter-irritation, and by resolutives and alteratives.

CASE 4.—The local state is here merely mentioned, but it is stated that the lady became pregnant several times, and, after great suffering during her pregnancies, miscarried prematurely, at the period at which distension of the lower half of the cervix begins. This is merely what I have repeatedly seen in cases of puerperal laceration with subsequent inflammatory induration of the cervix and its os. This morbid condition does not always prevent impregnation, but it renders the pregnancy very laborious, and generally occasions abortion or miscarriage.

CASE 6 is an extreme instance of this description. The local inflammatory lesions were evidently very severe, and were much aggravated by the pregnancy. There is nothing, however, in Dr. White's account to lead to the conclusion that the disease was cancerous. On the contrary, every symptom mentioned tends to characterize the case as one of inflammatory induration of the cervix and its os, and of ulceration of the cervical cavity. As, however, palliative treatment only was



adopted, under the impression that the disease was cancerous, the patient was, naturally enough, getting worse at the date of Dr. White's communication.

CASE 7.—This is the most important of all Dr. Montgomery's cases, as it may in reality have been one of incipient cancer. The uterus of the patient was *not examined during life*, but after she had died from carcinoma recti, the lower part of the cervix and the os uteri were found to present, as it were, grains of shot or sharp gravel in their substance. Although microscopic examination alone could have decided the true nature of these shot-like indurations—which may have been inflammatory, and present by coincidence—it is very probable that they really afforded an illustration of cancer in its first stage. Dr. Montgomery does not say whether they were irregularly strewn over the cervix, or whether they were grouped *around* the os uteri—an important distinction. We must not, however, forget that this local condition of the cervix was only recognized *after death*, and that it does not appear to have given rise to *any* symptoms during life calculated to lead to such an examination.

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If the disease described by uterine pathologists as the first or incipient stage of cancer is not cancer, as I have endeavored to demonstrate, but merely inflammatory induration of the cervix, what are the symptoms, local and general, which characterize cancerous growths in their first stage?

This is a question which I am unable to answer, except by reference to those parts of the cervix in ulcerated cancer in which the disease is present in a less advanced state—inasmuch as I am not certain that I have ever seen a single case of this description.

In the early part of my medical career, cases came under my notice that were said to be incipient cancer of the neck of the uterus, and amongst them were several treated by Lisfranc. Since, however, I have learned to judge for myself on this subject, I have also learned to doubt the diagnosis of those to whose authority I then surrendered my opinions.

I have now earnestly sought, during many years, as I have already stated, for the first stage of cancer of the neck of the uterus; and, although I have met with hundreds of cases of cancer in the ulcerated or advanced stage, I still do not recollect (1861) having seen an instance of the disease in its incipient ulcerated period. I have seen numerous cases resembling those which I have just reproduced—and, in fact, I am never without a number of them under my care—but the idea of their being cancerous now never even occurs to me. In my opinion, they are merely instances of severe chronic inflammatory hypertrophy, with or without lacerations, fissures, indurated lobules, and puckering of the margin of the os. I find them, also, *always curable* by local depletion and general medication, and more especially by strong caustics, such as the potassa fusa, or the potassa cum calce,

which, when judiciously used, give rise to the absorption of the indurated tissues.

I do not either recollect having actually witnessed a case of this kind under treatment degenerate, or terminate otherwise than by resolution. I may here remark, that had the authors whom I have quoted detailed a single case presenting the symptoms described by them as characteristic of cancer, and which, instead of *getting well under leeching and antiphlogistic treatment*, had continued to progress *unfavorably*, and terminated fatally in the usual way, that single instance would have done more to establish the correctness of their diagnosis than a hundred cases of "cure." Cancer is a disease so *generally* fatal, whether attacked or not by treatment—even when completely extirpated in its first stage—that the accumulation of numerous cases in which treatment is reported as always, or generally, successful, implies almost of necessity an error in diagnosis. It must be remembered that the authors quoted give the cases in question, not as exceptional, but as illustrations of the ordinary results of treatment in numerous instances of a similar nature.

I must again repeat, that my own experience, as well as the analysis of that of others, leads me to the conclusion, that cancerous growths of the uterus in the incipient or non-ulcerated stage of their development, are always indolent, and give rise to no symptoms sufficiently decided to induce patients to complain, or to seek for advice. Thus we can explain how the disease in its incipient stage does not come under the notice of the conscientious practitioner who never uses the speculum without serious reason for so doing.

At the same time, although I cannot assert that I have ever met with incipient cancer, and can find no satisfactory evidence in the writings of others of their having really met with it during life, *this fact is no reason why I or others should not meet with it sooner or later*, especially now that uterine examinations are becoming so much more general. I am, however, inclined to think, that if cancer be seen in the incipient stage, *it will probably be owing to some accidental circumstance*, and not to the symptoms which it occasioned having courted inquiry.

Were I thus to meet with a cancerous growth in its first stage in the cervix, I should expect to find shot-like, pale, indolent indurations, all but insensible to pressure, strewn irregularly over the cervix; or an irregular hard tumor, similarly characterized, developed on its surface. This description of what I should expect to find is drawn from the state of non-ulcerated parts of carcinoma uteri when examined in its more advanced or ulcerated stage.

It is more than probable that cancer of the cervix uteri, instead of being very slow in its development, and remaining for years in the first or non-ulcerated stage, as stated above, is, on the contrary, very rapid in its growth and progress, especially in women who still menstruate. No other organ in the economy is exposed to the periodical sanguineous fluxes which take place in the uterus physiologically;

and these fluxes cannot but be considered as conducive to the rapid development of a fungoid growth like cancer. Sexual excitement also, no doubt, has a similar tendency at all periods of life.

I have thus at length developed my views respecting the diagnosis of cancer of the uterus in its early stage, as I consider it of the utmost importance to the cause of suffering humanity that the real nature of the numerous cases of inflammatory induration which occur in practice should be recognized. In the present state of science, they are, as I have shown, confounded with cancer, and I shall consider myself amply rewarded for the trouble I have taken to prove their non-cancerous nature, if I am the means of saving patients thus afflicted, and their friends, from the agonies of suspense and fear, which all feel when the dreaded name of cancer is pronounced in connection with local disease.

In the course of the preceding pages, I have not alluded to the opinions entertained by continental writers on this subject, as they are still more untenable than those of English pathologists. Nor is this surprising, when we consider that they are only just emerging from the trammels of the Broussaian school of medicine which considered cancer to be merely a form of inflammation, and one of its ordinary modes of termination.

Lisfranc evidently never learned to distinguish cancer from inflammatory induration; and it is more than probable that a large proportion of the cases in which he "successfully" amputated the neck of the uterus, were merely cases of inflammatory hypertrophy. Duparcque looks upon inflammation as the ordinary precursor of cancer, and writes in such a manner as to induce the reader to believe that the two diseases are continually seen to merge into each other. He brings forward cases in which women whom he had previously treated for inflammation, or who, although suffering from inflammatory disease, had neglected treatment for several years, subsequently consulted him with advanced ulcerated cancer of the uterus. The occurrence, however, of a few instances of this description in an extensive consulting practice proves nothing. Amongst the large number of females suffering from uterine inflammation who pass before the eyes of a consulting practitioner, some few must inevitably become affected with uterine cancer, even were they not more liable to cancerous disease than other members of the female community. This, indeed, has repeatedly occurred in my own practice.

#### *Ulcerated Cancer of the Cervix Uteri.*

There can be no difference of opinion about the diagnosis of the ulcerated or advanced stage of carcinoma of the cervix. Its characteristics are but too plainly and easily distinguished by practitioners accustomed to the treatment of uterine diseases. Those, however, who are not familiarized with uterine affections, frequently mistake the nature of the case, and erroneously suppose that their patients are only



suffering from hemorrhage, leucorrhœa, or inflammatory ulceration. I have often met with illustrations of this fact.

In cancerous ulceration of the uterine neck there is generally loss of substance. The ulcerated surface is also hard, and presents numerous lobules, tubercles, and ridges, disseminated with the utmost irregularity, and presenting, as a rule, that stony hardness which is only occasionally met with in inflammatory induration. A person accustomed to uterine investigations will scarcely mistake for a moment the nature of the lesion, so peculiar is the sensation produced to the finger by the irregular, ulcerated, and indurated surface. The disease is generally found to extend to the vagina. When this is the case, the hardened ridges and lobules formed by the cancerous growth are continued on to the vaginal cul-de-sac, and descend more or less along its parietes. This is never the case in inflammatory induration or ulceration, the vagina never becoming indurated, however much or however long the cervix and uterus may be diseased. In cancerous ulceration, the cervix and uterus are nearly always immovable in the pelvis, having become adherent, glued, as it were, to the surrounding organs and tissues; whereas this very seldom occurs in inflammatory ulceration. In advanced cases, the disease and the subsequent induration extend to the bladder or rectum, or to both, involving these organs in a greater or less degree, and giving rise to a host of most distressing symptoms.

The ulcerated surface secretes a sanious ichor, often in great abundance; and this secretion is generally very offensive to the smell. On withdrawing the finger, the odor which attaches itself to it is alone sufficient, in forty-nine cases out of fifty, to establish a diagnosis. It is so nauseating, as to leave a lengthened impression on the olfactory nerves. The discharge from inflammatory ulceration may be very offensive, owing to want of cleanliness, or to the nature of the secretion, but it seldom, if ever, presents the horribly offensive odor of a cancerous uterine discharge.

If examined with the speculum, the ulceration will be found to present the usual appearance of cancerous ulceration—an irregular jagged sore, covered with fungous granulations, and sometimes with a grayish pultaceous film. I seldom, however, employ the speculum in these cases, as its use is attended with considerable danger from hemorrhage. I have known several instances in which severe hemorrhage has followed instrumental examination, the explanation of which is obvious. The parts in which the cancerous degeneration takes place losing their elasticity and pliability, and becoming perfectly inextensible, the introduction of the speculum is liable to rupture or fissure the diseased tissues, and thus to give rise to irrestrainable hemorrhage.

The general symptoms of uterine cancer are too well known for any details on the subject to be necessary. I will merely remind the reader, that all the general and local symptoms which accompany ulcerated cancer may also be observed in chronic inflammatory ulcer-

ation. Thus we may have severe hypogastric, lumbar, and femoral pains, sanguinolent fetid discharge, occasional hemorrhage, extreme emaciation, yellow tinge of the skin, hectic fever, vesical and rectal irritation, and yet the disease may be merely inflammatory. Although, therefore, the presence of the above symptoms is, generally speaking, but too significant of advanced malignant disease, yet implicit reliance cannot be placed on them alone. The doubt as to their meaning can only be solved by examination.

### *Cancroid Growths.*

The malignant cancroid growths observed in the uterus, are corroding ulcer and cauliflower excrescence. They belong to the section to which Professor Bennett gives the name of epithelial cancerous growths.

Corroding ulcer is not a common disease. It is a malignant form of ulceration, commencing on the cervix, or in the cavity of the cervix, which gradually extends itself in surface and in depth. It may be considered identical with epithelioma or cancer of the lips, or with the cancerous ulceration of the skin, described by surgical writers under the name of "*noli me tangere*." Corroding ulcer of the cervix uteri is not difficult to recognize. Instead of there being hypertrophy of the cervix, as in chronic inflammatory ulceration, there is, on the contrary, *loss of substance*, an ulcerated excavation, with an indurated margin, more or less deep, according as the disease is more or less advanced. It is also distinguished from ordinary cancerous ulceration—which, in its advanced stages, also gives rise to loss of substance—by the absence of the hardened ridges, and inequalities of surface produced by the cancerous growths. In advanced ulcerated cancer of the cervix, the uterus, as we have seen, is glued to the adjacent tissues, and consequently immovable, or nearly so; this is not necessarily the case in corroding ulcer, even when the cervix has been destroyed, and the body of the uterus is deeply excavated by the progress of ulceration.

In one case of corroding ulceration that I met with, the patient, a middle-aged woman, died from uterine hemorrhage after long suffering from an exhausting purulent and hemorrhagic discharge. I only saw the uterus after death. It was not adherent to the surrounding tissues. The cervix was entirely destroyed. The parts appeared as if the cervix had been nibbled away by a mouse. On microscopic examination no cancer-cells were found. The proper tissue of the uterus terminated abruptly at the solution of continuity. The cellular element in the vicinity of the latter was more abundant than is normal. In another case, that of an old lady of sixty, who died of exhaustion after an hemorrhagic discharge which lasted several years, the cervix was also entirely destroyed, and the uterus excavated. In this instance the solution of continuity was not so regular as in

the former. There was, likewise, no adhesion to the surrounding tissues.

I have repeatedly attended women in whom ulceration of the cervix, at first *apparently* inflammatory, rapidly assumed the characters of corroding ulceration, and lastly became regularly carcinomatous. These cases were, no doubt, cases of ulcerated epithelioma from the first. The test was treatment. Had the ulceration been really inflammatory, it would have yielded to treatment; being cancerous from the first, treatment had no influence on it, and the disease passed through its usual stages.

Cauliflower excrescence, although of more common occurrence than corroding ulcer, is not a disease frequently met with. It consists in a fungoid tumor, of variable size, growing from the os uteri, the surface of which is sometimes smooth, and sometimes lobulated, and formed of rounded groups of papillæ, resembling, externally, a cauliflower. "These tumors," says Professor Bennett, "speaking generally, are almost wholly composed of epithelial scales, which assume a square or elongated form, their nuclei being for the most part very distinct. In the larger growths the surface is similarly compressed, but, internally, consists of a fibrous structure, into which loops of vessels from the capillary network of the dermis is prolonged."

Tumors of this description cannot possibly be confounded with inflammatory affections either of the uterus or of its neck. I may add that if they are quite isolated they should be at once removed with the knife, and as much as possible of the adjacent healthy tissues of the cervix should be also simultaneously removed. The epithelial character of these forms of malignant disease renders the operation all the more indicated, as epithelioma is less likely to return than the other forms of cancer. Unfortunately, it is very difficult to reach healthy tissue, even when the entire cervix is amputated. I have several times amputated the cervix for this disease, but always with a fatal result, but then I have always found cancer-cells at the limit of the division. In one instance I removed the tumor with the knife, and then cauterized deeply the surface with the actual cautery. In the course of a few weeks I obtained a healthy cicatrix, and eventually the cervix became apparently quite free from disease, and remained so for many months. The disease then broke out again and progressed with extreme rapidity. When I was again consulted the cervix was partly destroyed by carcinoma, which extended to the body of the uterus, and all possibility of operative interference was gone. She died subsequently in the usual course. Although I have not myself hitherto been successful, other practitioners have, and there are many cases on record of successful removal of such tumors.



## APPENDIX.

### ON THE PHYSICAL EXAMINATION OF THE UTERUS, AND OF THE UTERINE ORGANS.

THE novel facts contained in the preceding pages have been principally brought to light by the application of improved methods of investigation to the diagnosis of uterine disease. As it is indispensable for other practitioners to use means as efficient as those which I myself employ, if they are to arrive at the same results, I shall enter into a few brief details on the physical examination of the uterus and its appendages.

The state of the uterine organs may be physically ascertained by the touch, by the speculum, and by the uterine sound.

The touch has been employed, from time immemorial, as a means of ascertaining the condition of the uterus and its annexed organs. Its use, however, has hitherto given but very limited information, especially with reference to the state of the neck of the uterus, the region which it more especially reaches, and which is most frequently the seat of disease. The explanation of this fact is to be found in the touch not having hitherto been educated by the eye, which, it would appear, alone can teach it to recognize the morbid changes produced by disease. Although the touch has been habitually resorted to, for ages, as a means of diagnosis, the frequent existence of inflammation, ulceration, and inflammatory hypertrophy of the cervix was not suspected until the speculum recently revealed their presence. When once, however, the eye has demonstrated the existence of these morbid states, the touch, with its assistance, gradually acquires the power of distinguishing even slight morbid changes. It then appears quite a marvel to the practitioner that the grossest morbid conditions should have previously escaped his recognition.

I am continually witnessing illustrations of this fact; continually seeing patients who have been examined digitally by experienced accoucheurs a few days only before they apply to me, and pronounced free from any morbid state, although they present the most conclusive evidence of extensive disease—evidence which my “*educated*” finger detects as soon as it reaches the cervix. I could mention many singular instances of this inability to recognize lesions of the neck of the uterus by the touch, in practitioners who have seen a vast amount of

uterine disease, but whose touch has not been educated by the eye. I shall, however, confine myself to the following:—

I was requested to meet, in consultation, a surgeon of eminence, who has long enjoyed very extensive opportunities of witnessing cases of uterine disease. The case was that of a lady of rank, thirty-nine years of age, who had been in a most deplorable state of health, notwithstanding constant medical treatment, ever since a miscarriage, which had occurred seventeen years previously. On examining digitally I found the cervix hypertrophied and retroverted; the cavity of the cervix was so open as to admit the first phalanges of two fingers. This open surface, as also that which surrounded it, presented the characteristic sensation of luxuriant ulceration: and the finger, on being withdrawn, was covered with pus and blood. I mentioned to the practitioner in question my conviction that very extensive inflammatory ulceration was present, and that the fact of the lady not having recovered her health under the care of her previous medical attendants, all persons of great experience, was owing to an instrumental examination not having been resorted to, and the real nature of the disease, consequently, not having been recognized. To my surprise I was told, in reply, that he did not perceive any evidence of ulceration; that he never used the speculum, as he could thoroughly depend on his touch for every necessary information; and that he would not sanction, even by his presence in the house, any instrumental examination in the case on which we were called upon to consult. Under these circumstances I refused to give an opinion, and the consultation was abruptly brought to a close. The age and professional eminence of the practitioner in question, however, coupled with the assurance on his part, made in my presence, that he could cure the disease without any *painful* operation being necessary, prevailed, and the patient remained in his hands.

A few months afterwards I was called to see a lady in consultation with the family attendant, who had been under the care of the same practitioner for some months, and had been treated by him, with the assistance of the speculum, for inflammatory ulceration. Recollecting what had occurred on the previous occasion, I was rather surprised to hear that instrumental examination had been resorted to, but learnt that it was in consequence of the all but imperative demand of the family attendant. The disease had been pronounced from the beginning purely inflammatory, and perfectly curable. My opinion was required by the husband, because his wife had not progressed as favorably as he had been led to expect. Being thus unprepared to meet with anything serious, I was astonished to find, on the finger reaching the cervix, that it was the seat of extensive cancerous ulceration.

Thus we find a man who has grown gray in the consulting practice of uterine disease, and who places such implicit reliance on the delicacy of his touch, and on the correctness of the information which it affords to him, as to spurn with contempt the assistance of the eye, totally misled by the touch in two most simple cases. In one he fails

to recognize very extensive inflammatory ulceration, although told of its existence, and in the other he mistakes advanced ulcerated cancer for inflammatory disease. If the experience of a long life, especially devoted to the study of uterine disease, still leaves the touch, untaught by the eye, so thoroughly uneducated as to allow of such gross errors as the above, how little information can we expect to be obtained from it by the ordinary practitioner, whose opportunities of observation must be infinitely more limited.

It is not, however, in the examination of uterine disease only that the education of the senses, by improved means of diagnosis, leads to results which the keenest judgment so unaided fails to attain. The history of medical science for the last thirty years has exemplified the fact in many different ways; and it is admitted and dwelt upon as incontrovertible by the most eminent writers of the present day. Thus Dr. Watson, in his admirable lectures (vol. i. p. 10, third edit.), says: "You will find what, previously to positive trial, you might not suspect, that the senses—the eye, the ear, the touch—however sharp or delicate they may naturally be, require a special course of training and education before their evidence can be trusted in the investigation of disease." Again; Dr. Latham, in his recent valuable work on "Diseases of the Heart" (vol. i. pp. 80, 81), eloquently remarks, in terms equally applicable to uterine disease: "But the ear must be a well-educated and well-practised ear, or it is not a trustworthy witness. Remember this; for the knowledge of the senses is the best knowledge; but the delusions of the senses are the worst delusions." Further on (pp. 295, 296), he adds: "What an amazing difference there appears in the objects of nature around us, according to the point of view from which we regard them. When we stand on the right spot for taking in the whole prospect, we then see what before we could not see at all, and we then see clearly what before we only caught a glimpse of from some more commanding position. . . . Thus the point of view from which diseases of the heart are now regarded, discloses so many new things, and puts so many old things in a much clearer light, that I distrust the results of my former experience, and feel the need of submitting all my practice, and the use of all my remedies, to the test of my own more recent observation." . . . . "As diseases are better understood, and we possess surer signs for discerning their seat, and progress, and events, the records of past experience become obsolete, and so a necessity arises for a new course of clinical observations." (p. 295.)

A digital examination of the uterus and the annexed organs may be made in any position. The one usually adopted is the obstetric, in which the patient is lying on her left side. This position answers the purpose as well as any for the exploration of the neck of the uterus. Its size, volume, and direction, the state of the os, and of the surrounding part, may be ascertained with perfect accuracy. This is no longer the case, however, if it is found desirable also to examine the condition of the body of the uterus, of the ovaries, and of the lateral ligaments;



owing to the difficulty, and often impossibility, of exercising sufficient pressure on the external abdominal walls with the other hand.

The range of the finger introduced internally being limited, of course, by the vaginal cul-de-sac, the state of the more internal organs can only be thoroughly ascertained by so pressing upon them through the parietes of the abdomen, as to lower them in the pelvic cavity, and thus to bring them within the reach of the finger. This is best accomplished by the patient lying on the back, the pelvis elevated by a hard pillow, the knees flexed, and the abdominal muscles relaxed. The finger should then be passed *per vaginam* into the pelvic cavity, the pulp directed to the pubis, and the elbow depressed. It thus easily reaches the cervix, and if at the same time the abdominal parietes in the lower hypogastric and ovarian regions are depressed, the uterus and its annexed organs are brought, by the hand placed externally, within the grasp, as it were, of the finger or fingers, carried internally, behind or at the side of the cervix. The slightest morbid change in the size or position of the uterus, of the ovaries, or of the lateral ligaments, may thus be detected, except when the abdominal walls are much loaded with fat, or when the patient pertinaciously contracts the abdominal muscles.

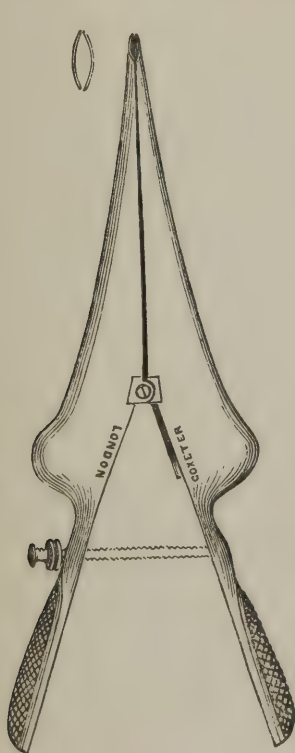
It is sometimes advisable to examine a patient in the erect position, in order to ascertain whether the uterus changes its direction, or prolapses, when she is standing or walking; or to ascertain exactly to what extent it has risen in the pelvis, when previously prolapsed, under the influence of treatment.

Many varieties of specula have been invented and proposed, but they may be all reduced to two kinds—the full and the valvular.

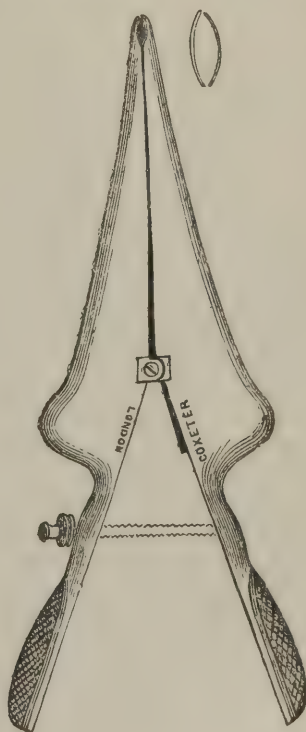
Full specula may be cylindrical or conical, and made of metal or glass. The conical shape, throwing a greater body of light on the part brought into view, is decidedly preferable to the cylindrical. They are of various sizes. This form of speculum is much easier to employ than the valvular, inasmuch as, once passed through the vulva, it has only to be gently pressed in the direction of the cervix to reach that organ. It is the instrument in general use on the Continent, and, in the early period of my practice, I generally resorted to it. All full specula, however, are liable to a very great objection, which induced me to discard them from habitual use. Unless a large size be used—which, generally speaking, cannot be done without causing great pain—they do not reveal disease existing within the cavity of the cervix. On the contrary, in most cases the pressure of the side of the speculum, as the cervix is received within its internal extremity, closes the os uteri if opened by disease, and prevents the morbid condition being recognized. I frequently see patients in whom extensive disease of the cavity of the cervix has not been recognized, although they have been instrumentally examined, owing to this very simple cause; or who have been erroneously considered cured, when a considerable amount of disease was still lurking in the cervical cavity. If, however, there is no disease of the cavity of the cervix, and a sufficiently

large speculum can be used to embrace the entire cervix, without giving pain on its introduction, a full speculum will answer as well as any other.

Glass specula have long been used; but several accidents having occurred, to my knowledge, by their breaking within the vagina, I had ceased to employ them, until this objection was obviated by Mr. Ferguson. He has had the outer surface of the speculum coated with a thin layer of Indian-rubber, after previously surrounding the glass itself with a brilliant metallic coating. The Indian-rubber envelope effectually does away with danger, as, in case of the speculum breaking (which, however, is much less likely to occur), the vagina is still perfectly protected from the broken fragments. The metallic surface, on the other hand, being a most powerful reflector, throws quite a flood of light on the tissues brought into view. Indeed, no specula



No. 1.



No. 2.

can be compared to these for lighting up the parts which they expose, and were it not for their great fragility, I should scarcely ever use any other when employing a full instrument. This latter objection, however, renders the metal conical specula, which endure for ever,

preferable for general use; the more so, as they throw quite sufficient light on the internal organs, if the patient is properly placed, and opposite a window. I have had four sizes of these metal conical specula made. The smallest (No. 1) can be used even with many virgin females without any previous dilatation or division. The largest (No. 4) is only applicable to pregnant females, or to those with whom the vulva and vagina are extremely open and relaxed. These specula fit one into the other, which makes them very portable.

Valvular specula may be bivalve, trivalve, or quadrivalve. The two latter kind, however, I reject for general use, not because they are inefficient, but on account of their size, and of the great mass of metal which has to be introduced.

The bivalve speculum is the one which I now generally employ. The chief advantage which it presents is, that it enables the operator to bring the cervix more completely into view, and also, by the expansive action of its blades on the vagina thoroughly to open the lips of the os uteri, and thus to ascertain the state of its cavity. Moreover, modified as I have modified it, it can, generally speaking, be introduced without any pain whatever to the patient—no small advantage. The modification consists principally in the flattening of the valves, so that previous to their expansion they constitute little more than two metallic blades, almost in juxtaposition, which occupy but little room, and may consequently be passed through even a narrow vaginal outlet, almost without pain. I have had two sizes made, one very small, and the other much larger, so as to be able to adapt the instrument to the case.

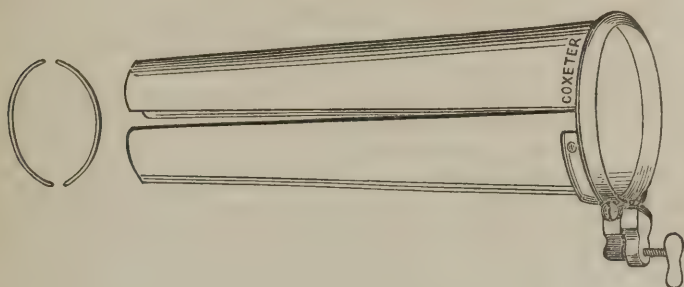
The engravings on page 439 present a correct view of these specula, as manufactured for me by Coxeter.

The chief objections to the bivalve speculum are, that it requires much more skill and habit on the part of the operator than the conical one, and that, on being expanded, the vagina, if lax, is apt to bulge between the valves, and to conceal the cervix from view. The first objection is a valid one, when the examination is performed by an inexperienced practitioner, who, as I have stated, will find it much easier to bring the cervix into view with a conical than with a bivalve instrument. When the latter is employed, the cervix does not fall of itself into the field of the instrument, but has to be sought for and brought within view—a process which demands a certain amount of operative skill. Until, therefore, that has been acquired, it would, perhaps, be best for the practitioner to confine himself to the use of conical specula. If he attempts to use the bivalve, however, I would warn him not to attribute to the instrument difficulties which only arise from his own inexperience.

The bulging of the vagina between the open valves of the bivalve speculum renders it of no use in the cases in which this occurs. Mr. Coxeter has met the difficulty by very ingeniously combining the conical and bivalve specula. He has made an instrument which, when closed, represents the No. 3 conical speculum, which I have slightly



flattened transversely. The cone, however, is composed of two valves, which can be separated to any extent by means of a hinge. We thus get the side-protection of the conical, and the expansive power of the bivalve speculum. This is really a most valuable instrument, and



has enabled me to discard all but entirely the largest conical size. It is more especially applicable, in the same class of cases; during pregnancy, when the vagina is more than usually relaxed, and when it is desirable effectually to protect the sides of the vagina, as in the application of the *potassa cum calce* or *potassa fusa*. This speculum is delineated above.

The position of the patient during an examination is important. If a conical or cylindrical speculum is used, the patient may be placed and examined indifferently on her side or on her back; but when the bivalve speculum is employed, the latter is by far the better position. The patient, dressed, should recline on the back, the pelvis elevated by a hard cushion, and the knees flexed, on a couch drawn opposite a window, in a good light. If there is no couch in the room, three chairs, placed sideways, make a very tolerable one, or the patient may be placed on the side of a bed, if it corresponds to a window. I always prefer daylight, if possible, although artificial light may be made to answer the purpose. The labia externa and the nymphæ should then be gently separated with the index and medius, the operator standing or kneeling by the side of the patient, so as completely to disclose and open the vaginal orifice, into which the closed speculum is carefully introduced. The introduction of the speculum should not be attained by forcing, but by successively pressing it to one side and to the other, above and below, so as to make room for it. The valves should not be expanded before the instrument has reached the cervix, and then only very gently—otherwise the folds of the vagina pass between. When this has once occurred, it is often next to impossible for the operator to retrieve himself—in which case the speculum had better be withdrawn, and again introduced. In order to be certain that the speculum is properly directed, the exact position of the cervix should always be first ascertained with the finger previous to its introduction, and carefully borne in mind. The progress

of the speculum, as it passes into the vagina, should be watched with the eye, and any mucus or pus which may conceal the view of the parts which it has reached, wiped away, before the valves are expanded. The smooth surface of the os, and the resistance to pressure with the sound, will indicate its appearance at the end of the speculum: and it is only when it is ascertained that it has been reached that the branches should be opened.

Whatever speculum be used for an examination, to render it satisfactory, the entire cervix should be brought within the field of the instrument, and in a sufficiently good light to render evident the most trifling morbid change in the local state of the organ. Although generally an easy operation, the satisfactory introduction of the speculum is not always so. In some instances, indeed, owing to narrowness of the vaginal outlet, or to malposition of the cervix, it becomes most difficult to effect, and requires great habit and skill.

The uterine sound which is here delineated, is a very useful instrument in the diagnosis of diseases of the uterus. The profession are indebted to Professor Simpson for its application to uterine pathology; the idea, although very simple, not having occurred to any previous practitioner. The uterine sound is merely a graduated metallic bougie, with a handle. The inches and half inches are figured; and two inches and a half from the end there is a small protuberance, which marks the depth of the uterine and cervical cavities in the healthy state. In examining a patient with the sound, in order to ascertain whether it passes freely through the cervical cavity, and enters the uterus, it is very necessary to be certain that it really does penetrate as far as this protuberance. The fact of the operator being able to replace the womb, or to turn it upwards, by no means proves that such is the case, the purchase obtained on the uterus when it only enters as far as the os internum—that is, one inch and a half, or one inch and three-quarters—being often quite sufficient to enable the practitioner to accomplish this. In order, therefore, to be certain, he should carefully ascertain, by the touch or the eye, that the sound has really entered above two inches. I am convinced that, for want of care in ascertaining this point, errors are continually made, even by those who are in the constant habit of using the sound.

It is generally considered that it has passed into the uterine cavity



if the womb can be raised on it, when in reality, as we have seen, it may have only reached the os internum. I have witnessed this mistake repeatedly.

The sound should not be introduced into the cavity of the uterus, in my opinion, except as a necessary means of diagnosis. Its contact with the lining membrane of the uterine cavity is frequently attended with pain, and often by nausea, faintness, and a slight loss of blood. This fact leads me to think that the internal stem of Dr. Simpson's permanent pessary does not, in many cases, reach the uterine cavity, but merely remains in contact with the mucous membrane of the cervical cavity, which is infinitely less sensitive.

The uterine sound is also useful in bringing the cervix fully into view, when only partially within the field of the speculum; and to depress the lips of the open os uteri, so as to allow the eye to penetrate and to ascertain how far the morbid dilatation, the result of inflammation, reaches. In the absence of the uterine sound, a common bougie will answer the same purpose.

The foregoing details respecting the surgical manipulations requisite in the treatment of uterine disease bring forcibly to light the double medico-chirurgical character of uterine pathology. Confirmed uterine disease, as we have seen, generally passes out of the domain of medicine into that of surgery, and requires surgical means of investigation, and surgical means of treatment. The practitioner, therefore, who would successfully grapple with the difficulties of uterine pathology must, on the one hand, be thoroughly imbued with medical knowledge, and, on the other, well acquainted with the doctrines of surgery, and accustomed to its manipulations and operations. Instead of having to rely on drugs, on the agencies of general therapeutics, and on skill in their administration, we are called upon to have recourse to surgical instruments and agencies; and we want in the medical attendant skill in their use, a knowledge of local diseases, of the treatment local diseases require, and an acquaintance with their reactions on the economy at large. So true is this, that in France, since the new light broke on uterine pathology, it has fallen, by general consent, into the domain of surgery to such an extent that the leading authorities have principally been surgeons. I have only to mention Lisfranc, Marjolin, Velpeau, Jobert de Lamballe, Ricord, Huguier, &c., to corroborate this assertion.

No class of maladies, indeed, more aptly illustrates how artificial is the barrier between medicine and surgery than uterine disease, as illuminated by modern research. In their earlier stage, and in their simpler forms, they are medical, and fall all but necessarily under the eye of the physician; but in their later stage, and in their more aggravated form, they are essentially surgical. No medical practitioner, therefore, who is not at the same time a sound physician and a good practical surgeon, is competent successfully to struggle with the difficulties which have to be encountered in their treatment.

The various discussions which have taken place since the first pub-



lication of this work, illustrate and substantiate this fact, and also show what are some of the difficulties against which the rational therapeutics of uterine disease have to contend. It has been stated that the use of the more powerful surgical agents which I recommend to modify morbid vitality in chronic, intractable, or suspicious forms of inflammatory and ulcerative disease of the cervix, is unnecessary and unjustifiable. It is difficult to understand how any practitioner conversant with the doctrines and operations of surgery, can speak in such terms of the cautious and prudent use of the mineral acids, of the potassa cum calce, or of the actual cautery, employed, not to destroy, but to modify morbid vitality. Indeed, I can only account for the sweeping condemnation of all surgical treatment indulged in by some writers on this subject by presuming them to be ignorant of the doctrines and practice of surgery. How could a well-informed surgeon write with horror and dread of the more powerful caustics or of the actual cautery, as some have done—acknowledged, accepted surgical agents, used and prized by all surgeons? The actual cautery itself would be more generally employed in surgery, were it not that it alarms patients. I have often used it in various diseases, and always found it a safe and manageable agent. Indeed, the fear of these legitimate surgical agents appears to me puerile in a surgical point of view, if they really are required to cure disease. What is surgery, but the application of the knife, of caustics, of the actual cautery, or of whatever powerful agent may be required to remove or destroy disease, or to *modify vitality*? Why, therefore, should the application of these means to the occasional treatment of uterine disease be spoken of with “unsurgical horror and alarm,” if they really are occasionally required? and why should they not be required in exceptional cases of uterine disease, as well as in exceptional cases of disease of the bowel, vulva, meatus urinarius, &c.?

To solve doubts we may appeal not only to actual experience, but also to the laws of general pathology. Once it is admitted that the neck of the uterus is liable to inflammation, ulceration, thickening, hypertrophy, and induration; that it may become the seat of unhealthy, suspicious disease, ulcerative and other; and that these diseased conditions may exist uncured an indefinite number of years—every well-informed surgeon will allow that there *must* be cases which will not give way to the nitrate of silver, to astringents, leeches, &c. And if so, what is to be done with them? Are we to leave the patients to their fate, and confess ourselves impotent to cure, whilst we have more powerful surgical agents in our hands—agents which can cure these very morbid states? To the surgically-educated practitioner there is but one solution of this question: as long as there is a fair chance of cure, he will keep to the milder means of treatment: it is his imperative duty so to do. As soon, however, as he has ascertained that these means are insufficient, he will at once, prudently and cautiously, but without fear or trepidation, resort to the more powerful means of treatment at his command. At the same time, we must bear

in mind, once surgical agencies are accepted, that in unskilled hands they are dangerous remedies—a double-edged sword, which indiscreetly used may do positive harm, instead of good. This remark, however, applies equally to all surgical means of treating disease in every part of the human economy. What havoc may not the knife, the principal agent of the operating surgeon's ministry, produce, unless guided by skill and prudence? But the fact of a powerful surgical agency being, in unskilled hands, a dangerous one, is no more a reason why it should be discarded in the treatment of uterine disease, than is the same fact a reason why the health or death-giving instruments of the surgeon should be anathematized. It is a reason, however, why the rules that ought to guide us in the use of such agencies should be carefully elucidated and scrupulously followed. It is owing, no doubt, to the unvarying care and prudence with which I have followed out the surgical treatment of uterine disease, that I am able to say, after twenty years' extensive experience, that I have not yet had a single serious and irremediable accident.

## S Y N O P S I S

OF THREE HUNDRED CASES PRESENTING UTERINE SYMPTOMS, TREATED  
AT THE WESTERN GENERAL DISPENSARY, BETWEEN JULY, 1846, AND  
MARCH, 1849.

(See page 45, *et seq.*)

IN the following Table, I have adopted, for the sake of brevity, terms which I wish to be taken in a general sense, and to be understood to convey more than they imply absolutely. Thus the word "painfully," applied to menstruation, means, that physiologically, menstruation is, and always has been, attended with considerable pain, and anomalously scanty or abundant, frequent, or rare. Whereas, "easily" means, that it is and has been free from any of these physiological peculiarities; and "irregularly," that its manifestation is irregular, although unaccompanied by marked pain. By "uterine pains," I wish to imply generally, the presence of all the pains—lumbar, ovarian, hypogastric, &c.,—to which uterine disease gives rise; if any one pain is named, that it exists alone. By "debility," I mean the general sympathetic reactions on the functions of organic life, and more especially on those of digestion and nutrition which occasion it. The term "anemia" merely indicates these reactions to exist in an extreme degree. "Leucorrhœa" implies a non-sanguinolent vaginal discharge of mucus or pus.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1846. July. 1	35	.. ..	Married; ten labors: several abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, leucorrhœa, partial prolapsus, debility.
2	22	.. ..	Married at 18; one labor; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, lumbar and ovarian pains.
3	30	Menstruated at 13, easily.	Married at 26; sterile.	Inflammation and hypertrophy of cervix.	Leucorrhœa, lumbar and ovarian pains.
4	30	.. ..	Married; four labors.	Inflammation and ulceration of cervix.	Leucorrhœa and lumbar pains since a labor, 3 months ago.
5	38	.. ..	Married; seven labors.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, leucorrhœa since last confinement, 3 years ago.
6	31	Menstruated at 18, easily.	Married; two labors.	Inflammation, ulceration, and hypertrophy of cervix.	Menorrhagia, leucorrhœa since last labor, 8 years ago.
7	32	Menstruated at 12, irregularly.	Married at 24; sterile.	Inflammation, ulceration, and hypertrophy of cervix.	Menorrhagia, leucorrhœa, dysmenorrhœa.



No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms
1846. July. 8	38	Menstruated at 13, easily.	Married at 19; one labor at 20.	Fibrous tumor; os uteri ulcerated.	Flooding, leucorrhœa.
Aug. 9	18	Menstruated at 11, easily.	Married at 16; one abortion; one labor.	Inflammation and ulceration of cervix; vaginitis.	Uterine and ovarian pains; confined five weeks; ill since miscarriage.
10	31	Menstruated at 10 painfully.	Married at 18; three labors; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, leucorrhœa, dysmenorrhœa; ill since first labor.
11	32	Menstruated at 16, painfully.	Married at 19; one labor; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, dysmenorrhœa; ill since abortion, at 22.
12	53	Menstruated at 20.	Single .. ..	Menorrhagia. .. ..	Flooding at cessation of menses; leucorrhœa.
13	42	.. ..	Married; five labors.	Inflammation and ulceration of cervix; pregnant four months.	Leucorrhœa; severe abdominal and lumbar pains.
14	26	Menstruated at 14, painfully.	Married at 17; sterile.	Inflammation, excoriation, hypertrophy of cervix, pseudo-membranes.	Uterine pain, hysteria, nervous dysphagia.
15	28	Menstruated at 14, painfully.	Married at 20; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Extreme debility; pessary; very ill since abortion, at 20.
16	30	Menstruated at 17, easily.	Married at 18; three labors.	Inflammation and excoriation; pregnant two months.	Leucorrhœa, uterine pains; ill since first labor.
17	30	Menstruated at 10, painfully.	Married at 19; three labors, one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains; dysmenorrhœa, menorrhagia; very ill since abortion, at 24.
18	30	Menstruated at 17, easily.	Married at 25; three labors; two abortions	Inflammation and ulceration of cervix; pro-cidentia.	Leucorrhœa, uterine pains, pro-cidentia.
19	47	Menstruated at 12, easily.	Married at 23; six labors.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains; dysmenorrhœa; ill since last labor, 4 years ago.
20	22	Menstruated at 10.	Married at 20; one labor.	Inflammation and ulceration of cervix; vaginitis, syphilitic roseola.	Purulent discharge, uterine pains.
Sept. 21	27	Menstruated at 14, painfully.	Married at 24; three labors.	Inflammation and ulceration of cervix.	Flooding, leucorrhœa, uterine pains, debility; ill since first labor.
22	42	Menstruated at 16.	Married at 20; four labors, several abortions.	Inflammation and ulceration of cervix; pro-cidentia.	Menorrhagia; menses irregular; extreme debility.
23	46	Menstruated at 16, easily.	Married at 19; five labors.	Inflammation, ulceration, and hypertrophy of cervix; cause, gonorrhœa.	Leucorrhœa, uterine pains; menses irregular; debility.
24	30	Menstruated at 14, easily.	Married at 19; one labor.	Inflammation, ulceration, and hypertrophy of cervix; pseudo-membranes.	Uterine pains; ill since labor, at 21.
25	47	Menstruated at 13.	Married; three labors.	Inflammation and enlargement of cervix; cause, gonorrhœa.	Leucorrhœa, uterine pains; ill 12 months.
Oct. 26	24	Menstruated at 14, painfully.	Married at 18; two labors.	Inflammation and ulceration of cervix; pregnant five months.	Leucorrhœa, uterine pains; ill since previous labor, eighteen months ago.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1846. Oct. 27	33	Menstruated at 17, easily.	Married at 23; four labors; thirteen abortions.	Inflammation, ulceration, extreme hypertrophy of cervix; pregnant two months.	Flooding, leucorrhœa, uterine pains, anemia.
28	33	.. ..	Married at 26; abortion at 28.	Chronic metritis, cured by casual abscess of lateral ligaments.	Dysmenorrhœa, uterine pains; ill since abortion.
29	26	Menstruated at 12, painfully.	Married at 23; sterile.	Inflammation, ulceration, and extreme hypertrophy of cervix.	Leucorrhœa, dysmenorrhœa, uterine pains; bearing down.
30	35	Menstruated at 16, painfully.	Married at 19; two labors.	Inflammation and ulceration of cervix.	Amenorrhœa; dorsal pain.
Nov. 31	48	Menstruated at 15.	Married at 17; seven labors, one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, uterine pains; ill since last labor, 7 years ago.
32	35	Menstruated at 11, easily.	Married at 27; two labors; three abortions.	Inflammation, ulceration, hypertrophy of cervix.	Dysmenorrhœa, uterine pains, leucorrhœa; ill since last labor, four years ago.
33	49	Menstruated at 17, painfully.	Married at 20; eight labors.	Inflammation, ulceration, and hypertrophy, lacerations, simulating cancer of cervix.	Flooding, severe uterine pains, leucorrhœa, anemia.
34	43	Menstruated at 17.	Married at 40; sterile.	Idiopathic hemorrhage.	Menorrhagia, hemorrhage in interval of menses; uterus healthy.
Dec. 35	23	Menstruated at 15, painfully.	Virgin. .. ..	Abscess of lateral ligaments.	Dysentery, dysmenorrhœa, uterine pains.
36	51	Menses regular, until within last year.	Married; ten labors; last 12 years ago.	Inflammation and ulceration of cervix.	Dorsal pain, bearing down, leucorrhœa; ill a year.
37	28	Menstruated at 13, irregular and profuse.	Married at 17; six labors; three abortions.	Inflammation and ulceration of cervix.	Uterine pains, bearing down, leucorrhœa, dysmenorrhœa.
38	33	Menstruation easy.	Married at 25; sterile.	Inflammation and ulceration of cervix, hypertrophy of liver.	Uterine pains, dysmenorrhœa, leucorrhœa; ill three years.
39	..	.. ..	Married; has had several labors.	Procidencia uteri, extensive ulceration and hypertrophy of cervix.	
40	36	.. ..	Married; several labors.	Inflammation, ulceration, and hypertrophy of cervix; pregnant two months.	Ill since a bad labor six months ago.
1847. Jan. 41	34	Menstruated at 15, painfully.	Married at 26; four labors.	Abortion of mole, inflammation, and ulceration of cervix.	Flooding, uterine pains, anemia; ill two years since last labor.
42	38	Menstruated at 13, easily.	Married at 20; eight labors; one abortion.	Inflammation and ulceration of cervix.	Hemorrhage, nearly incessant for 7 months, probably after abortion; anemia.
43	25	Menstruated at 15, painfully.	Married at 24; one labor.	Inflammation and ulceration of cervix.	Extreme flooding since labor, 5 weeks ago; dorsal pain; prolapsus.
44	23	Menstruated at 16, painfully.	Married at 22; sterile.	Inflammation and excoriation of cervix.	Menorrhagia, leucorrhœa, uterine pains; ill ever since marriage.
45	35	Menstruated at 19, easily.	Married at 30; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Menorrhagia, prolapsus, uterine pains, anemia; ill since abortion, four months ago, and before.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. Jan. 46	38	Menstruated at 12, painfully.	Married at 26; sterile.	Inflammation, excoriation, and hypertrophy of cervix.	Uterine pains; bearing down.
47	46	.. ..	Married at 42; one labor.	Procidencia uteri, excoriation of cervix.	Dragging uterine pains.
48	30	.. ..	Married at 17; three labors.	Inflammation, ulceration, and extreme hypertrophy of cervix.	Uterine pains, bearing down, anemia; ill since last labor, at 24.
49	35	Menstruated at 13, painfully.	Married at 19; seven labors; one abortion.	Inflammation, ulceration, and hypertrophy of cervix; pregnant.	Uterine pains, prolapsus, leucorrhœa, great debility.
Feb. 50	42	Menstruated at 18.	Married at 30; seven labors.	Flooding, probable abortion, inflammation, ulceration, and hypertrophy of cervix.	Flooding, uterine pains, great debility.
51	40	.. ..	Married .. ..	Inflammation, ulceration, and hypertrophy of cervix; pregnant 4 months.	
52	..	.. ..	.. ..	Inflammation, ulceration, and hypertrophy of cervix.	
53	..	.. ..	.. ..	Inflammation and ulceration of cervix.	
54	23	Menstruated at 18, painfully.	Married at 20; sterile.	Inflammation of cervix and its cavity, internal metritis.	Menorrhagia, occasional leucorrhœa, uterine pains.
55	27	Menstruated at 11, easily.	Married at 19; sterile.	Inflammation and ulceration of cervix; cause, gonorrhœa.	Prolapsus, leucorrhœa, uterine pains, anemia; ill 4 years.
56	32	Menstruated at 14, painfully.	Married at 21; two labors; three abortions.	Inflammation and ulceration of cervix; pregnant four months.	Uterine pains, leucorrhœa, debility; ill since first labor.
57	35	Menstruated at 13, painfully.	Married at 19; three labors; several abortions.	Inflammation and ulceration of cervix; cause, turning.	Uterine pains, leucorrhœa, debility; ill some years.
58	28	Menstruated at 15, painfully.	Married at 20; three labors.	Procidencia uteri, extensive ulceration of cervix.	Dragging and uterine pains, leucorrhœa.
59	45	Menstruated at 13, easily.	Married at 20; nine labors.	Inflammation and ulceration of cervix.	Excessive flooding for many months, leucorrhœa, extreme anemia, and retroversion of cervix.
60	50	.. ..	Married early; nine labors.	Ulcerated carcinoma uteri.	Flooding, extensive disease, anemia; menses ceased 5 years ago.
March 61	25	Menstruated at 15, easily.	Married at 22; two labors.	Chronic posterior metritis.	Uterine pains, hemorrhage, and retroversion of uterus, anemia; ill since last labor.
62	48	Menstruated at 13, easily.	Married at 32; eight labors; one abortion.	Inflammation and ulceration of cervix.	Uterine pains, menses stopped after flooding; ill since a labor two years ago.
63	30	Menstruated at 13, easily.	Married at 25; one labor.	Inflammation, ulceration, and hypertrophy of cervix; partial anaurosis.	Uterine pains and leucorrhœa ever since marriage, worse since labor, laceration of cervix.



No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. March 64	28	.. ..	Married early; several labors and abortions.	Inflammation and extensive ulceration of cervix; laceration.	Severe flooding, confined a month, never well since abortion, 18 months ago.
65	45	Menstruated at 14, easily.	Married at 16; two labors; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa for several years; no pregnancy since abortion, at 24.
66	35	Menstruated at 12, painfully.	Married at 18; seven labors.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, partial prolapsus; anemia; ill some years, since fourth labor.
67	42	Menstruated at 17, painfully.	Married at 18; five labors; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains; ill some years since; severe flooding, anemia.
68	30	Menstruated at 14, painfully.	Married at 22; three labors, two abortions.	Inflammation and ulceration of cervix.	Flooding of four weeks' duration, uterine pains.
69	43	Menstruated at 14, easily.	Married at 21; nine labors; several abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, partial prolapsus, anemia; ill since last labor, 6 years ago.
70	30	Menstruated at 15, easily.	Married at 17; ten labors.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, anemia; ill since tedious labor, 6 months ago.
71	23	Menstruated at 18, easily.	Married at 19; two abortions; 1 labor.	Inflammation and ulceration of cervix.	Leucorrhœa, partial prolapsus, debility.
72	40	Menstruated at 13, painfully.	Married at 21; ten labors; four abortions.	Inflammation and ulceration of cervix; pregnant four months.	Leucorrhœa, uterine pains, flooding previous to pregnancy, anemia; ill some years.
73	24	Menstruated at 16, easily.	Married at 20; sterile.	Inflammation and ulceration of cervix; cause, gonorrhœa.	Leucorrhœa, partial prolapsus, debility.
74	60	.. ..	Married early; seventeen labors.	Procidentia uteri, extensive ulceration of cervix.	Leucorrhœa, hemorrhage; uterus down since last labor, at 44.
75	56	Menstruated at 12, easily.	Married at 27; three labors; four abortions.	Procidentia uteri, and very extensive ulceration.	Leucorrhœa, hemorrhage; uterus down since third labor.
April. 76	41	Menstruated at 11.	Married at 29; five labors.	Procidentia uteri, slight ulceration.	Menorrhagia, uterine pains; uterus down since first labor.
77	28	Menstruated at 18, irregularly.	Married at 23; sterile.	Inflammation and ulceration of cervix.	Amenorrhœa, leucorrhœa, uterine pains.
78	35	.. ..	Married; several labors.	Small vascular polypus from cavity of os uteri.	
79	39	Menstruated at 11, painfully.	Married at 21; eleven labors; two abortions.	Inflammation and ulceration of cervix, laceration.	Flooding since labor, 9 weeks ago.
80	36	Menstruated at 19, easily.	Married at 23; seven labors.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, uterine pains; partial prolapsus since last labor, 10 months ago.
81	43	Menstruated at 11, easily.	Married at 24; seven labors.	Ulcerated carcinoma of cervix.	Disease advanced, uterus immovable, vagina compromised; emaciated.
82	40	Menstruated early, irregularly.	Married at 20; sterile.	Small vascular polypus issuing from os, ulceration of its cavity.	Uterine pains, leucorrhœa, debility.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. April. 83	35	Menstruated at 12, easily.	Married at 18; fourteen labors; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, dysmenorrhœa, partial prolapsus, anemia; ill several years.
84	29	Menstruated at 12, painfully.	Married at 24; four labors.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, uterine pains, partial prolapsus; ill since first labor.
85	29	Menstruated at 11, painfully.	Married at 16; one labor; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Headache, impaired memory, uterine pains, partial prolapsus, extreme anemia; ill since labor, at 17.
86	33	Menstruated at 19, painfully.	Married at 27; four labors.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, partial prolapsus, cervix retroverted; ill since ceased nursing last child.
May. 87	37	Menstruated at 11, painfully.	Married at 24; seven labors.	Inflammation and ulceration of cervix; pregnant 4 months.	Leucorrhœa, uterine pains, debility; ill since last labor, 16 months ago.
88	37	Menstruated at 12, painfully.	Married at 21; one labor; cross birth.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, cervix very retroverted; ill since labor at 22.
89	27	Menstruated at 17, easily.	Virgin. . . .	Inflammation and ulceration of cervix.	Dysmenorrhœa, leucorrhœa, partial prolapsus, dyspepsia, debility; ill 4 years.
90	41	Menstruated at 19, painfully.	Married at 33; three labors.	Procidencia uteri, extensive ulceration, and hypertrophy.	Uterine pains, leucorrhœa, and procidencia since last labor, a year ago.
91	39	Menstruated at 15, easily.	Married at 18; one certified abortion after 20 years' marriage.	Inflammation, ulceration, and hypertrophy of cervix.	Sterile 20 years, no uterine symptoms; pregnant; abortion from over-fatigue; since then uterine pains.
92	39	Menstruated at 12, painfully.	Married at 18 six labors.	Inflammation and ulceration of cervix.	Partial prolapsus, leucorrhœa, uterine pains, debility; ill since fifth labor, 4 years ago.
93	35	Menstruated at 20, painfully.	Married at 26; sterile.	Inflammation, ulceration of cervix and its cavity.	Leucorrhœa, uterine pains, anemia.
June. 94	35	Menstruated at 15, easily.	Married at 22; three labors.	Procidencia uteri, extensive ulceration.	Menorrhagia, leucorrhœa, debility; procidencia 6 months after last labor, some years ago.
95	37	Menstruated at 16, painfully.	Married at 29; sterile.	Fibrous tumor in posterior uterine wall.	Leucorrhœa, dysmenorrhœa, sound penetrates 3 inches, uterus retroverted; debility.
96	30	Menstruated at 14, painfully.	Married at 21; eight labors; four abortions.	Inflammation and ulceration of cervix, pulmonary tubercles, also tubercle on cervix.	Uterine pains and leucorrhœa from first; worse since last labor, 2½ years ago; advanced phthisis.
97	27	Menstruated at 16, easily.	Virgin. . . .	Amenorrhœa, menses disappeared gradually, 3 years ago.	No uterine symptoms; uterus and cervix healthy to touch; delicate; partial amaurosis.
98	25	Menstruated at 13, easily.	Married at 21; two labors.	Inflammation and ulceration of cervix; pregnant 2 months.	Uterine pains, leucorrhœa since ceased nursing, 5 months ago.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. June. 99	54	Menstruated at 18, easily.	Married at 30; four labors.	Inflammation and ulceration of cervix; cause, gonorrhœa.	Lumbar pain, leucorrhœa; menses ceased at 50; uterine symptoms since then; worse latterly.
100	21	Menstruated at 17, irregularly.	Virgin .. ..	Inflammation of cervix and vagina.	Leucorrhœa, uterine pains, debility.
101	47	Menstruated at 13, easily.	Married at 25; fifteen labors; three abortions.	Ulcerated carcinoma of cervix.	Uterine pains, offensive discharge, cachectic, ill 9 months; still menstruated.
102	36	Menstruated at 13, painfully.	Married at 20; five labors; one abortion.	Inflammation and ulceration of cervix	Flooding, uterine pains, leucorrhœa, partial prolapsus.
July. 103	26	Menstruated at 18, painfully.	Married at 22; sterile.	Inflammation and ulceration of cervix; cause, gonorrhœa.	Leucorrhœa, uterine pains, partial prolapsus, anemia.
104	35	Menstruated at 17, irregularly.	Virgin. .. ..	Amenorrhœa for last 12 months.	Debility, no uterine symptoms.
105	30	Menstruated at 19, painfully.	Married at 21; five labors.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, partial prolapsus; ill since last labor, 11 months ago.
106	45	Menstruated at 18, painfully.	Virgin. .. ..	Ovarian dropsy, advanced.	Menstruation ceased 6 years ago; no uterine lesion, anemia, ovarian tumor, perceived 10 years ago.
107	20	Menstruated at 17, irregularly.	Virgin. .. ..	Menorrhagia, idiopathic.	Menses every fortnight, last a week, since 19; no other uterine symptoms, no examination.
108	49	Menstruated at 12, painfully.	Married at 16; five labors.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, uterine pains, debility.
109	34	Menstruated at 14, painfully.	Married at 15; one labor at 17.	Vascular polypus issuing from os uteri, inflammation, and ulceration.	Uterine pains, leucorrhœa, anemia, since labor.
110	30	Menstruated at 16, easily.	Married at 17; six labors; eight abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, debility, flooding; ill several years.
111	21	.. ..	Married at 19; one labor.	Abscess of lateral ligaments, opening externally.	Confined six weeks ago at Marylebone Infirmary; acute inflammation from over-exertion on return home.
Aug. 112	29	Menstruated at 13, painfully.	Married at 17; two labors.	Inflammation and ulceration of cervix.	Uterine pain, leucorrhœa, debility; ill since first labor, at 19.
113	44	Menstruated at 19, easily.	Married at 19; eleven labors; five abortions.	Inflammation, ulceration, and hypertrophy of cervix; lacerations.	Uterine pains, leucorrhœa, debility; ill five years, since first abortion.
114	20	Menstruated at 15, painfully.	Married at 20; three labors; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, uterine pains, leucorrhœa, anemia; ill since first abortion 5 months after marriage.
115	32	Menstruated at 15, painfully.	Married at 16; five labors; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, debility; ill since labor, at 23, since which the abortion.



No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. Aug. 116	24	Menstruated at 13, painfully.	Married at 20; one labor; one miscarriage.	Inflammation, ulceration, and hypertrophy of cervix; laceration.	Flooding, uterine pains, leucorrhœa; ill since labor, at 20, worse since abortion, 4 months ago.
117	27	Menstruated at 13, easily.	Married at 19; two labors; five abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, partial prolapsus, debility; ill since second labor, at 21, since which abortions.
118	28	Menstruated at 13, easily.	Married at 17; eight labors; four abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, menorrhagia, flooding, leucorrhœa, partial prolapsus, debility, continued vomiting, ill some years.
119	26	Menstruated at 16, painfully.	Married at 26; one labor.	Inflammation, ulceration, and hypertrophy of cervix.	Dysmenorrhœa, leucorrhœa, uterine pains, partial prolapsus, debility; ill since first labor, at 24.
120	30	Menstruated at 14, irregularly.	Married at 21; four labors; one miscarriage.	Inflammation and ulceration of cervix.	Flooding, uterine pains, extreme anemia; ill since abortion three months ago, from fall.
121	42	Menstruated at 12, easily.	Married at 20; six labors; four abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, partial prolapsus, debility; ill since last labor, 4 years ago, since which three abortions.
122	57	Menstruated at 14, irregularly.	Married at 26; four labors.	Ulcerated cancer of cervix.	Hemorrhage, offensive discharge, slight uterine pains; ill for last eight months only; appears in health; disease advanced.
123	47	Menstruated at 19, painfully.	Married at 24; eight labors; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, uterine pains, partial prolapsus, debility; ill since last labor, 6 years ago, since which, abortions.
Sept. 124	40	Menstruated at 13, easily.	Married at 27; six labors.	Small vascular polypus of os uteri, ulceration around and inside os.	Leucorrhœa, uterine pains, menorrhagia; ill for 3 years, since contracted gonorrhœa from husband.
125	37	Menstruated at 15, painfully.	Married at 29; four labors.	Inflammation and ulceration of cervix.	Uterine pains, leucorrhœa; ill since last labor, three months ago.
126	46	Menstruated at 18.	Married at 23; two labors.	Ovarian dropsy, advanced.	No uterine symptoms; menses left a year ago, when first perceived tumor, great debility.
127	46	Menstruated at 17, painfully.	Married at 29; seven labors.	Inflammation, ulceration, and hypertrophy of cervix; lacerations.	Uterine pains, leucorrhœa, debility; ill since last labor, four years ago.
128	44	Menstruated at 16, easily.	Married at 25; one labor.	Inflammation, and ulceration of cervix.	Flooding and leucorrhœa the only symptoms; came on 10 weeks ago, after menses; no uterine symptoms since labor at 26.
129	44	Menstruated at 17, easily.	Married at 32; one labor; widow since 34.	Procidentia uteri; ulceration of cervix.	Uterus prolapsed six months ago, on lifting weight; no previous uterine symptoms.
Oct. 130	50	Menstruated at 11, with flooding, easily.	Married at 18; four labors; three abortions.	Chronic metritis.	Menorrhagia, flooding, especially since last abortion, 6 months ago; uterus voluminous, painful, retroverted.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. Oct. 131	60	Menstruated at 15, painfully.	Married at 20; eleven labors; one abortion.	Small vascular polypus; ulceration of os uteri.	Uterine pains; the lumbar very severe; menses ceased at 54; ill since 47.
132	36	Menstruated at 14, painfully.	Married at 19; three labors; one abortion.	Inflammation and ulceration of cervix; leucorrhœa.	Uterine pains; ill since beginning of last pregnancy, of which aborted, some years ago.
133	28	Menstruated at 16, painfully.	Married at 25; two labors.	Inflammation and ulceration of cervix.	Partial prolapsus, uterine pains, debility, pulmonary phthisis.
134	40	Menstruated at 13, easily.	Married at 20; several labors. three abortions.	Procidentia uteri; extensive ulceration of cervix.	Leucorrhœa, uterine pains, uterus prolapsed gradually after last labor, 7 years ago; ill since then.
135	30	Menstruated at 18, painfully.	Married at 20; one miscarriage four months afterwards.	Chronic metritis.	Uterus retroverted, leucorrhœa, pelvic weight, debility; ill since abortion; much worse during menstruation.
136	37	Menstruated at 16, easily.	Married at 28; two labors; two abortions.	Inflammatory hypertrophy of uterus and cervix; ulceration of the latter.	Uterine pains, bearing down, debility, uterus retroverted.
137	45	Menstruated at 15, painfully.	Virgin .. ..	Fibrous tumor of uterus	Uterine pains, menses natural; great uterine enlargement, perceived 2 years ago; sound penetrates 3 inches; debility.
138	39	Menstruated at 15, easily.	Married at 15; four labors; one abortion.	Inflammation and ulceration of cervix.	Uterine pains; leucorrhœa; ill since abortion, 10 months ago, which she attributes to gonorrhœa, secondary syphilis.
139	26	Menstruated at 14, easily.	Married at 19; three labors; several abortions.	Inflammation, ulceration, and hypertrophy of cervix; lacerations.	Flooding, leucorrhœa, uterine pains, anemia, fever; ill since last labor, 3 years ago, since which abortions.
140	40	Menstruated at 14, easily.	Married at 21; five abortions; one labor.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, bearing down, debility, deafness; ill 3 years only; a widow 9 years.
141	23	Menstruated at 14, painfully.	Married at 17; six labors; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, lumbar weakness, only since last labor, a year ago.
Nov. 142	26	Menstruated at 20, easily and regularly.	Virgin .. ..	Amenorrhœa.	Menses stopped 18 months ago suddenly, from a sea voyage; no uterine symptoms except slight dorsal weakness, debility; no examination.
143	31	Menstruated at 15, painfully.	Virgin .. ..	Inflammation of cervix and vagina.	Leucorrhœa; great debility; dysmenorrhœa increased; ill 4 years.
144	44	.. ..	Married early; several labors.	Procidentia uteri, ulceration of cervix.	
145	25	Menstruated at 13, painfully.	Virgin .. ..	Dysmenorrhœa from contraction of cervical cavity.	Within last 3 years dysmenorrhœa excessive; otherwise no uterine symptoms or lesions; entirely removed by dilatation.
146	46	.. ..	.. .. .	Large fibrous tumor of uterus.	Flooding.

No.	Age.	Menstruated.	Social State.	Disease.	Prominent Symptoms.
1847. Nov. 147	18	Menstruated at 15, easily.	Married at 18.	Inflammation and ulceration of cervix.	Flooding, uterine pains since abortion, 5 weeks ago, from fall.
148	29	Menstruated at 12, painfully.	Married at 19; five labors, one abortion.	Inflammation and ulceration of cervix; pregnant 4 months.	Flooding, uterine pains, extreme debility; ill since last labor 2 years ago, since which the abortion.
149	47	Menstruated at 15, painfully.	Married at 23; ten labors, three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, hemorrhage, debility; ill 10 years; worse since last abortion a year ago.
150	23	Menstruated at 14, once, and at 18 months.	Virgin . . .	Amenorrhœa (idiopathic).	No uterine symptoms; no examination; not chlorotic, weak, but health tolerable.
151	22	Menstruated at 16, easily.	Married 2 months ago.	Inflammation and ulceration of cervix.	Leucorrhœa, dysmenorrhœa, and uterine pains existing 12 months before marriage.
152	30	.. ..	Married early; sterile.	Inflammation, ulceration, and hypertrophy of cervix.	Dysmenorrhœa, leucorrhœa, uterine pains, retroversion of cervix, debility.
153	28	Menstruated at 20, irregularly.	Married at 24; two labors.	Inflammation, ulceration, and hypertrophy of cervix; laceration.	Uterine pains, dysmenorrhœa, leucorrhœa, retroversion of cervix, anemia; ill since last labor 2½ years ago.
154	27	Menstruated at 13, painfully.	Married at 25; one abortion.	Inflammation and ulceration of cervix; pregnant 8 months.	Leucorrhœa, hemorrhage, uterine pains; ill since abortion, 15 months ago.
155	28	Menstruated at 15, painfully.	Married at 20; one labor; widow since 22.	Ovarian dropsy; slight ulceration of cervix.	Perceived small tumor in right ovarian region five years ago; since almost stationary; menses irregular; uterine pains.
156	34	Menstruated at 16, painfully.	Married at 24; two labors.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, debility; ill 6 years since last labor, when placenta retained.
157	46	Menstruated at 18, regularly.	Married at 20; four labors; several abortions.	Procidentia uteri, extensive ulceration.	Uterus partly prolapsed since first labor, completely since last abortion, 4 months ago.
158	30	Menstruated at 18, painfully.	Married at 28; one abortion.	Inflammation and ulceration of cervix; pregnant four months.	Uterine pains, leucorrhœa, debility; ill since abortion, 10 months ago.
159	32	Menstruated at 14, painfully.	Married at 17; ten labors; two abortions.	Procidentia uteri, slight ulceration.	Leucorrhœa, debility, uterus prolapsed since last labor, a cross-birth, 3 years ago.
160	26	.. ..	Married early; one labor.	Inflammation, ulceration, and hypertrophy of cervix, pseudo-membranous patches.	Leucorrhœa, uterine pains, cervix retroverted.
Dec. 161	28	Menstruated at 17, easily.	Married at 26.	Inflamed cervix and vagina.	Leucorrhœa, uterine pains, bearing down; ill since marriage.
162	20	Menstruated at 15, regularly.	Married seven months.	Inflammation and ulceration of cervix; chlorosis.	Leucorrhœa and uterine pains for some time before marriage; all the symptoms of confirmed chlorosis.



No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1847. Dec. 163	33	Menstruated at 15, regularly.	Married at 21; seven labors.	Inflammation and ulceration of cervix.	Leucorrhœa, uterine pains, debility; ill for years; muscular band or contraction two-thirds of circumference of vagina, in upper region.
164	49	Menstruated at 18, easily.	Married at 25; seven labors.	Inflammation and hypertrophy of cervix.	Menses stopped for seven months; erroneously thinks she is pregnant; uterine pains, leucorrhœa.
165	31	Menstruated at 14, easily.	Married at 18; six labors.	Inflammation and ulceration of cervix; pregnant seven months.	Uterine pains, leucorrhœa; bearing down, debility; ill since last labor, three years ago.
166	40	Menstruated at 15, painfully.	Married at 16; sterile.	Ulcerated cancer of the uterus.	Lumbar pain, and offensive discharge, only within the last 2 months; vagina compromised.
167	41	Menstruated at 13, painfully.	Married at 30; five labors; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, bearing down; ill since last labor, 3 years ago.
168	42	Menstruated at 10, easily.	Married at 21; four labors.	Inflammation and ulceration of cervix.	Dysmenorrhœa, leucorrhœa; ill since last labor, a cross-birth, 7 years ago.
169	33	Menstruated at 15, irregularly.	Married at 23; one labor; three abortions.	Inflammation, ulceration, and hypertrophy of cervix; pregnant three months.	Flooding, uterine pains, anemia; ill since labor at 24, since which abortions.
1848. Jan. 170	21	Menstruated at 12, easily.	Married at 18; two labors.	Inflammation and ulceration of cervix.	Uterine pains, hemorrhage, debility; ill since last labor, 4 months ago.
171	20	Menstruated at 18, irregularly.	Virgin .. ..	Inflammation and ulceration of cervix.	Amenorrhœa for last five months; leucorrhœa; slight uterine pains; debility; erroneously supposes she is pregnant.
172	50	.. ..	Married; several labors.	A large fibrous tumor of uterus.	Flooding.
173	38	Menstruated at 20, irregularly.	Married at 21; eleven labors; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains; sanguinolent discharge; ill some years; placenta retained 6 weeks after last abortion.
Feb. 174	32	Menstruated at 12, painfully.	Married at 19; four labors.	Procidentia uteri; ulceration of cervix.	Uterine pains, leucorrhœa, and prolapsus, since last labor, a cross-birth, eight years ago.
175	29	Menstruated at 14, painfully.	Married at 25; four labors.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains; leucorrhœa since a shoulder-presentation, 13 months ago; 6 weeks ago attended her for the same presentation.
176	26	Menstruated at 12, easily.	Married at 20; sterile.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains and debility since marriage.
177	38	Menstruated at 18, easily.	Married at 26; one labor; two abortions.	Metritis. .. ..	No uterine symptoms, until a few weeks ago, then of acute metritis; now pus oozes from uterine cavity.
178	24	Menstruated at 14, easily.	Married at 19; one labor.	Inflammation, ulceration, and hypertrophy of cervix; lacerations.	Leucorrhœa, lumbar pain, bearing down, and debility since labor at 20; placenta retained.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. Feb. 179	55	Menstruated at 17, easily.	Married at 26; Seven labors; one abortion.	Corroding ulcer of cervix.	No uterine symptoms previous to cessation of menses, at 52; since then sanguinolent discharge, or hemorrhage, anemia.
180	51	Menstruated at 16, regularly.	Married at 25; one labor.	Small vascular polypus of os uteri; ulceration.	No uterine symptoms until a year ago; since then leucorrhœa and uterine pains.
181	51	Menstruated at 16, easily.	Married at 21; three labors; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, dysmenorrhœa, lumbar pain, debility; ill two years since last confinement; a recent abortion.
182	30	.. ..	Married early; several labors.	Inflammation and ulceration of cervix; 7 months pregnant.	Severe uterine pains, leucorrhœa.
Mar. 183	39	Menstruated at 14, painfully.	Married at 21; sterile.	Inflammation and ulceration of cervix.	No uterine symptoms until six years ago; since uterine pains, leucorrhœa, and debility; menses more painful.
184	52	Menstruated at 11, painfully.	Married at 20; two labors; one abortion.	Ulcerated cancer of the neck of cervix uteri.	No uterine symptoms till between 40 and 50, when menses left; for sixteen months sanguinolent discharge, slight pains in hypogastrium, debility.
185	22	Menstruated at 17, painfully.	Married at 21; one abortion.	Inflammation and ulceration of cervix.	Uterine pains, leucorrhœa, breast painful, abortion 3 months ago, ill previous to marriage.
186	35	Menstruated at 17, painfully.	Virgin .. ..	Small vascular polypus of os uteri; ulceration.	Uterine pains, leucorrhœa, debility for 4 years.
187	35	Menstruated at 14, painfully.	Married at 19; five labors.	Inflammation and ulceration, and hypertrophy of cervix.	Uterine pains for some years, worse since last labor, 3 years ago.
188	21	Menstruated at 14, painfully.	Married at 19; two labors.	Inflammation and ulceration of cervix; pregnant seven months.	Uterine pains, leucorrhœa since last labor, a cross-birth.
189	30	Menstruated at 14.	Married at 24; three labors; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Slight uterine pains, leucorrhœa, anemia; cervix retroverted; ill nearly ever since marriage.
190	33	Menstruated at 15, easily.	Married at 21; three labors.	Inflammation and ulceration of cervix.	Leucorrhœa, slight lumbar pains; apparently in tolerable health.
191	39	Menstruated at 18, easily.	Married at 19; ten labors; one abortion.	Inflammation and ulceration of cervix.	Leucorrhœa, uterine pains; debility since middle of last pregnancy.
192	51	Menstruated at 18, at first irregularly.	Married at 30; five labors; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains and debility since abortion, six years ago; still regular.
193	33	Menstruated at 12, painfully.	Married at 24; two labors.	Inflammation, ulceration, and hypertrophy of cervix.	Menorrhagia, leucorrhœa, debility; ill since last labor, two years ago.
194	31	.. ..	Married .. ..	Inflammation and ulceration of cervix.	Amenorrhœa.
195	47	Menstruated at 13, regularly.	Married at 18; one labor; widow at 25.	Fibrous tumor of uterus, ulceration of os.	Never well since labor; treated many years for metritis; latterly flooding, uterine pains.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. Mar. 196	24	Menstruated early, painfully.	Married at 20; one labor.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, leucorrhœa, uterine pains, anemia.
197	50	Menstruated at 13, painfully.	Married at 22; four labors; many abortions.	Inflammation, ulceration, and hypertrophy.	Leucorrhœa, uterine pains; debility since an abortion, eight years ago.
198	53	Menstruated at 11, painfully; ceased at 47.	Married at 21; one labor.	Procidentia uteri.	Uterus prolapsed after an effort 4 years ago; no uterine lesions or symptoms.
199	34	Menstruated at 11, painfully.	Married at 21; five labors, several abortions.	Inflammation and ulceration of cervix; pregnant five months.	Very severe lumbar pains, leucorrhœa, ill some time.
April. 200	35	Menstruated at 18, easily.	Married at 29; two labors.	Inflammation and ulceration of cervix.	Lumbar weakness, great debility; ill since last labor, ten months ago.
201	26	Menstruated at 14, painfully.	Virgin .. ..	Inflammation and ulceration of cervix.	Uterine pains, leucorrhœa; ill four months; since menses stopped from damp feet.
202	28	Menstruated at 15, painfully.	Married at 25; two labors.	Inflammation and ulceration of cervix.	Uterine pains, leucorrhœa, debility; ill since last labor, five months ago.
203	30	Menstruated at 13, painfully.	Married at 21; two labors, one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, menses irregular, partial prolapsus; ill some years.
204	27	Menstruated at 14, painfully.	Married at 23; one labor.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, menses irregular, debility; ill since labor at 24.
205	19	Menstruated at 12, painfully.	Married at 18; one labor.	Inflammation and ulceration of cervix.	Flooding, uterine pains, leucorrhœa, debility, ill before marriage, worse during and since pregnancy.
206	32	Menstruated at 13, painfully.	Married at 22; sterile.	Congestion of cervix and vagina.	Leucorrhœa, dorsal pain, debility.
May. 207	29	Menstruated at 17, painfully.	Married at 24; two labors.	Inflammation and ulceration of cervix.	Uterine pains, leucorrhœa, debility, rheumatic gout; ill since marriage.
208	28	Menstruated at 14, regularly.	Married at 21; five labors.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, anemia; ill since fourth labor, placenta retained.
209	52	Menstruated at 13.	Married early; twelve labors, five abortions.	Procidentia uteri, slight ulceration.	Uterus prolapsed since last labor six years ago, uterine pains, debility.
210	34	Menstruated at 11, regularly.	Married at 20; three labors.	Inflammation, ulceration, and hypertrophy of cervix.	Dysmenorrhœa, uterine pains, leucorrhœa, debility; ill since first labor, at 21.
211	50	Ceased to menstruate at 43.	Married; several children.	Inflammation and ulceration of cervix.	Leucorrhœa, for two years.
212	47	Menstruated at 15, painfully.	Married at 21; four labors, one abortion.	Procidentia uteri; slight ulceration.	Uterus prolapsed since instrumental labor 15 years ago, uterine pains.
213	34	Menstruated at 17, painfully.	Virgin .. ..	Inflammation and ulceration of cervix.	Leucorrhœa, uterine pains, debility; ill above 2 years.
214	28	.. ..	Married; one abortion.	Inflammation and ulceration of cervix.	
215	53	Ceased to menstruate at 47.	Married early; six labors.	Procidentia uteri.	Uterus prolapsed for 20 years; last labor at 43.



No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. May. 216	26	Menstruated at 14, painfully.	Married at 20; two labors.	Inflammation and ulceration of cervix.	Flooding, uterine pains, leucorrhœa, debility; ill since first labor at 21.
217	33	Menstruated at 15, painfully.	Married at 30; sterile.	Inflammation and ulceration of cervix.	Ovarian pain, leucorrhœa.
June. 218	47	Menstruated at 19, easily; ceased at 44.	Married at 27; seven labors, many abortions.	Procidencia uteri; extensive ulceration.	Uterus prolapsed above nine years, uterine pains, leucorrhœa, debility.
219	24	Menstruated at 11, painfully.	Married at 19; three labors.	Inflammation and ulceration of cervix; laceration.	Uterine pains, partial prolapsus, debility; ill since first labor; worse since last.
220	40	Menstruated at 15, regularly.	Married at 22; five labors, two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, debility; ill many years.
221	32	Menstruated at 15, painfully.	Married at 21; six labors.	Inflammation, ulceration, and hypertrophy of cervix; laceration.	Leucorrhœa, dorsal pain, anemia; ill some years, worse since last labor, 15 months ago.
222	40	Menstruated at 15, regularly.	Virgin .. ..	Large fibrous tumor of uterus.	Menorrhagia for 7 years, uterine enlargement perceived 3 years ago; latterly flooding, anemia.
223	26	Menstruated at 12, painfully.	Married at 25; one labor.	Inflammation and ulceration of cervix.	Hemorrhagia, uterine pains, debility; ill during pregnancy, which was followed by mild peritonitis.
224	35	Menstruated at 18, painfully.	Married at 25; five labors, one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa, anemia; ill since fourth labor, five years ago.
225	36	Menstruated at 14, regularly.	Married at 24; six labors, one miscarriage.	Inflammation and ulceration of cervix.	Hemorrhagia since abortion, 6 weeks ago, uterine pains, anemia; ill some months before.
July. 226	31	Menstruated at 16, regularly.	Marriage at 20; one labor.	Inflammation and ulceration of cervix.	Leucorrhœa, hypogastric pains, debility; ill a year.
227	30	Menstruated at 12, painfully.	Married at 29; one labor.	Inflammation and ulceration of cervix.	Hemorrhage since labor, 2 months ago, uterine pains.
228	36	Menstruated at 16, regularly.	Married at 25; sterile.	Ovarian tumor of considerable size.	Menses irregular of late, uterus healthy, no uterine symptoms; tumor first perceived six years ago.
229	52	Menstruated at 15, easily; menses ceased at 49.	Married at 20; two labors.	Ulcerated cancer of cervix.	No uterine symptoms until 6 months ago, then flooding, uterine pains, uterus fixed, vagina compromised.
230	38	Menstruated at 14, regularly.	Married at 28; one labor; one abortion.	Inflammation of cavity of cervix.	Leucorrhœa, uterine pains; ill since abortion, at 30.
231	48	Menstruated at 14, painfully; menses ceased at 44.	Married at 18; sterile.	Vascular polypus of os uteri.	Uterine pains and leucorrhœa, for last 6 months.
232	27	Menstruated at 15, painfully.	Married at 23; five abortions.	Inflammation and ulceration of cervix.	Hemorrhage since last abortion, five weeks ago; uterine pains, leucorrhœa, debility.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. July. 233	35	Menstruated at 14, easily.	Married at 28; one labor; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Dysmenorrhœa, uterine pains, leucorrhœa; ill since abortion, 3 years ago.
234	25	Menstruated at 15, regularly.	Married at 23; one labor.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, ovarian pain, debility.
235	33	Menstruated at 13, easily.	Married at 18; five labors.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, weakness in back, anemia; ill some years.
236	24	.. ..	Married early; several labors.	Inflammation, ulceration, and hypertrophy of cervix.	
237	26	Menstruated at 11, easily.	Married at 23; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Dysmenorrhœa, leucorrhœa, dorsal pain, debility; ill since abortion at 24.
238	32	.. ..	Married.	Ulcerated cancer of uterus.	Flooding for 4 months.
Aug. 239	42	Menstruated at 14, painfully.	Married at 22; one abortion.	Inflammation of cervix and its cavity.	Uterine pain, debility; ill since abortion, at 22.
240	26	Menstruated at 16, regularly.	Married at 19; one labor.	Inflammation and ulceration of cervix.	Leucorrhœa, bearing down, debility; ill since ceased nursing at 21.
241	43	.. ..	Married; one labor.	Inflammation and ulceration of cervix; lacerations.	
242	38	.. ..	Married early; three abortions.	Ulcerated cancer of uterus.	Uterus fixed; vagina compromised.
243	53	.. ..	Married early; several labors.	Procidentia uteri.	Uterus prolapsed for eight years; last labor at 28.
244	43	Menstruated at 15, easily.	Married at 21; eight labors; two abortions.	Inflammation and ulceration of cervix.	Dorsal pains for years; worse since last labor, 2 years ago; with leucorrhœa and debility.
245	22	Menstruated at 13, painfully.	Married at 21; sterile.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, hemorrhage, uterine pains, anemia; suspicious cutaneous eruption.
246	26	Menstruated at 12, easily.	Married at 15; three labors before 20.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains; leucorrhœa, debility; ill nearly ever since last labor.
247	21	Menstruated at 18, painfully.	Virgin .. ..	Ovaritis .. ..	Pain and swelling in left ovarian region, fever, menses suppressed, second day, by wet feet.
248	30	Menstruated at 18, easily.	Virgin .. ..	Inflammation, and ulceration of cervix.	Dysuria and vesical irritation; uterine pains, bearing down; ill six years.
249	36	Menstruated at 17, painfully.	Married at 19; eight labors; one abortion.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, hemorrhage, dorsal weakness; gonorrhœa 4 years ago; last pregnancy 8 years ago.
250	38	Menstruated at 13, painfully.	Married at 22; seven labors; two abortions.	Procidentia uteri; pregnant three months.	Uterus prolapsed some years ago, after fifth labor.
251	26	Menstruated at 16, irregularly.	Married at 17; four labors; one abortion.	Inflammation and ulceration of cervix.	Leucorrhœa, bearing down, debility, since last labor, seven weeks ago.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. Sept. 252	44	Menstruated at 14, painfully.	Married at 24; seven labors; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Dorsal pains, leucorrhœa, partial prolapsus, debility; ill since last labor, 8 years ago; one abortion since.
Oct. 253	41	Menstruated at 12, painfully.	Married at 20; one labor.	Ulcerated cancer of the uterus.	Flooding and offensive discharge for the last six months; no uterine symptoms before; vagina compromised; health still tolerable.
254	30	Menstruated at 10, regularly.	Married at 18; sterile.	Inflammation and slight ulceration of cervix.	Dysmenorrhœa, dorsal pains, leucorrhœa; ill some years.
255	21	Menstruated at 15, regularly.	Married at 18; one labor; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, hemorrhage, leucorrhœa, dorsal pain, partial prolapsus; ill since first labor.
256	32	Menstruated at 13, painfully.	Married at 18; seven labors; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, dorsal pain, debility; ill since abortion, a year ago.
257	26	Menstruated at 16, regularly.	Virgin .. ..	Inflammation of cervix and vagina; hypertrophy of cervix.	Dysmenorrhœa, leucorrhœa, uterine pains, debility.
258	35	Menstruated at 13, painfully.	Married at 16; one labor; several abortions.	Inflammation, ulceration, and hypertrophy of cervix; pregnant two months.	Uterine pains, leucorrhœa, great debility.
259	42	Menstruated at 11, painfully.	Married at 17; ten labors; five abortions.	Inflammation and ulceration of cervix; pregnant four months.	Dorsal pain, leucorrhœa, partial prolapsus; ill since an abortion, two years ago.
260	38	Menstruated at 13, painfully.	Married early; six labors; two abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, hemorrhage, leucorrhœa, dorsal pains, anemia; ill since abortion 6 months ago.
Nov. 261	35	Menstruated at 15, irregularly.	Virgin .. ..	Inflammation and hypertrophy of cervix.	Leucorrhœa, extreme dysmenorrhœa, hysteria, debility, decrepitude, semidiocry.
262	44	Menstruated at 12.	Married at 22; six labors; widow since 32.	Ulcerated cancer of uterus.	No uterine symptoms until 10 months ago; since then dorsal pains; health tolerable.
263	27	Menstruated at 12, painfully.	Married at 19; one labor; four abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Excessive flooding, dorsal pain, anemia; very ill ever since marriage.
264	28	Menstruated at 16, easily.	Married at 22; one false conception.	Inflammation and slight ulceration of cervix.	Dysmenorrhœa, dorsal pain; debility ever since marriage; the false conception a year ago.
265	30	Menstruated at 16, painfully.	Married at 21; three labors; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Flooding, dorsal pain, leucorrhœa, debility; ill since last labor, 2½ years ago, since which two abortions.
266	35	.. ..	Married .. ..	Fibrous tumor of uterus (large).	Ulceration of cervix.
267	32	Menstruated at 13.	Married at 24; two labors; one false conception.	Inflammation and hypertrophy of cervix.	Leucorrhœa, uterine pains, debility; ill since last labor, at 27; since which the false conception.



No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. Nov. 268	34	Menstruated at 15, regularly.	Married at 28; one labor.	Inflammation and ulceration of cervix; pregnant three months.	Uterine pains, leucorrhœa, debility, sickness, has only been ill a few months.
269	32	Menstruated at 16, regularly.	Married at 23; five labors; one abortion.	Inflammation and ulceration of cervix; pregnant five months.	Uterine pains, leucorrhœa, bearing down, debility; ill since last labor, two years ago, when placenta retained.
270	70	Menstruated at 19, painfully; ceased at 50.	Married at 26; two labors.	Ulcerated cancer of uterus.	No uterine symptoms until two years ago; since then hemorrhagia, thin, yellow, anemic, hypogastric pain, vagina compromised.
271	26	.. ..	Married at 20; sterile.	Inflammation and slight ulcer of cervix.	Uterine symptoms exist since marriage.
272	40	Menstruated at 17, painfully.	Married at 27; five labors.	Inflammation, ulceration, and hypertrophy of cervix.	Dorsal pain, leucorrhœa, vesical irritation, debility; ill since last labor, 3 years ago.
273	17	Menstruated once, 4 months ago.	Virgin .. ..	Inflammation and ulceration of cervix; abscess of vulva.	Leucorrhœa, uterine pains, dysuria, bearing down, breasts very painful, can scarcely walk, feverish (see page 142).
274	32	Menstruated at 12, painfully.	Married at 21; two labors; three abortions.	Inflammation, ulceration, and hypertrophy of cervix.	Dorsal pain, leucorrhœa, bearing down, debility; since last labor, 5 years ago, since which the abortion.
275	20	Menstruated at 16, regularly.	Married at 17; two labors.	Inflammation, ulceration, and hypertrophy of cervix.	Leucorrhœa, uterine pains; ill ever since marriage, worse since first labor.
Dec. 276	53	Menstruated at 16, regularly; ceased at 50.	Married at 25; sterile.	Neuralgia of uterus.	No uterine pains until 5 months ago; since then, agonizing pains, returning daily for several hours; uterus and cervix healthy.
277	28	.. ..	Married at 26; sterile.	Inflammation and ulceration of cervix.	Leucorrhœa, uterine pains, bearing down; ill since metritis, soon after marriage.
278	30	.. ..	Married early; several labors.	Inflammation and slight ulceration of cervix.	Ill since last labor, 4 years ago; has already been under instrumental treatment, and partly cured.
279	29	.. ..	Married at 27; one abortion.	Inflammation and ulceration of cervix; pregnant six months.	Aborted from a fall a year ago; severe flooding; ill ever since.
280	29	Menstruated at 19, painfully.	Married at 21; two labors.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pain, leucorrhœa, hemorrhagia, extreme debility; ill since last labor, at 23.
281	48	Menstruated at 14, regularly.	Married at 18; nine labors; one abortion.	Inflammation, ulceration, and hypertrophy of cervix; laceration.	Uterine pain, leucorrhœa, bearing down, sickness, great debility; ill ever since abortion, five years ago.
282	22	Menstruated at 18, easily.	Virgin .. ..	Inflammation and ulceration of cervix.	Dysmenorrhœa, leucorrhœa, uterine pains, debility; ill 18 months.

No.	Age.	Menstruation.	Social State.	Disease.	Prominent Symptoms.
1848. Dec. 283	29	Menstruated at 18, painfully.	Married at 20; two labors.	Inflammation, ulceration, and hypertrophy of cervix.	Dorsal pain, leucorrhœa, bearing down, debility; ill since last labor, three and a half years ago.
284	28	Menstruated at 15, painfully.	Married at 26; sterile.	Inflammation, slight ulceration and hypertrophy of cervix.	Uterine pains, bearing down.
285	19	Menstruated at 12, painfully.	Married at 17; two abortions.	Inflammation, slight ulceration of cervix; pregnant 3 months.	Hemorrhage, leucorrhœa, uterine pains, debility; ill since first abortion.
286	30	Menstruated at 14, painfully.	Married at 27; one abortion.	Inflammation, slight ulceration, and hypertrophy of cervix.	Uterine pains, leucorrhœa; ill since marriage; worse since abortion.
287	16	Menstruated twice, six and three months ago.	Virgin .. ..	Inflammation and ulceration of cervix.	Abscess of left labium, dorsal pains, leucorrhœa, bearing down, ill nine months (see page 143).
1849. Jan. 288	25	Menstruated at 14, painfully.	Married at 16; one labor; one abortion.	Inflammation, ulceration, and hypertrophy of cervix; lacerations.	Menorrhagia, uterine pains, debility; ill since tedious labor, at 17; worse since abortion at 20.
289	40	Menstruated at 14, painfully.	Married at 25; seven labors; one abortion.	Procidentia uteri, ulceration, and hypertrophy of cervix.	Uterine pains, and uterus prolapsed since last labor, two years ago, tedious; debility.
Feb. 290	33	Menstruated at 17, painfully.	Married at 23; one labor.	Inflammation, slight ulceration and hypertrophy of cervix.	Uterine pains, leucorrhœa, bearing down, debility since labor at 24.
291	60	Menstruated at 12.	Married at 20; nine labors and abortion.	Procidentia uteri, extensive ulcerations.	Uterus prolapsed many years; abundant mucosanguinolent discharge.
292	35	.. ..	Married early; five labors.	Inflammation, ulceration, and hypertrophy of cervix.	Uterine pains, and spasms; ill since last labor, three years ago.
293	65	Menstruated at 20, regularly, ceased at 50.	Married at 25; two labors.	Ulcerated cancer of uterus.	Last child at 30; no uterine symptoms until a year ago; then leucorrhœa, hemorrhage, dorsal pain.
294	30	Menstruated at 14, easily.	Married at 20; three labors; three abortions.	Inflammation and slight ulceration of cervix.	Uterine pains, leucorrhœa, previously flooding; ill since last labor, 2 years ago, since which two abortions.
295	50	Menses ceasing.	Married early; several labors.	Idiopathic hemorrhage on cessation of menses.	Cervix congested; no lesion; dorsal pain.
March 296	63	Menstruated at 15, painfully, ceased at 48.	Married at 26; five labors; last at 32.	Procidentia uteri, ulceration of cervix.	Uterus prolapsed 2 years ago, after an effort; leucorrhœa.
297	25	Menstruated at 12, easily.	Married at 20; three labors.	Inflammation and ulceration of cervix.	Leucorrhœa, lumbar pains; ill since first labor, two years ago.
298	37	Menstruated at 15, easily.	Married at 21; four labors.	Inflammation, ulceration and hypertrophy.	Flooding every 10 or 15 days; no other uterine symptoms since last labor at 29; widow since then.
299	20	Menstruated at 15, easily.	Married at 18; one labor.	Inflammation and ulceration of cervix.	Severe dorsal and crural pains, leucorrhœa; pains soon after labor, 7 weeks ago.
300	34	Menstruated at 14, regularly.	Married at 18; six labors; one abortion.	Inflammation and ulceration of cervix.	Uterine pains, dysmenorrhœa, bearing down; ill since last labor, fourteen months ago.

The treatment of the above cases was conducted on the principles laid down in the course of the work, and, generally speaking, with the most satisfactory results. I have not, however, thought it advisable to conclude these results in the tables. The attendance of persons who are treated for chronic disease, as out-patients, at a public institution, must, in many instances, be irregular and interrupted, and often prematurely brought to a close—the physician or surgeon exercising little or no control over their movements. It would consequently be injudicious and unfair to attempt to arrive at any statistical deduction as to the length or ultimate success of the therapeutic means employed, by the analysis of such cases.



## UTERINE PATHOLOGY IN INDIA.

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THE prevision contained in the preface to the second edition of this work, that "the descriptions of uterine disease which I have given are the expression of facts truly observed and faithfully reproduced, and will hold good alike *in all climes*, in all lands, and in all grades of social life," is fully justified by the following communication from Dr. S. Stewart, late Professor of Midwifery at Calcutta. Dr. Stewart's testimony, as to the frequent existence of inflammatory and ulcerative disease of the neck of the uterus amongst the native women of India, is also corroborated by the experience of many other practitioners in India and in various parts of the globe. Dr. Stewart's communication was accompanied by the following letter:—

"Warley Barracks, Brentwood, Essex, 19th March, 1856.

"DEAR SIR—It may perhaps interest you to know that your views and observations regarding the frequency and importance of ulceration of the cervix and os uteri are amply borne out in India, as everywhere else. In proof of this, I take the liberty of sending you a somewhat curious memorandum, drawn up for me by one of my late esteemed associates in the Calcutta Medical School. Baboo Madoosudun Goopta, of the appearances observed in these parts in the post-mortem examination of fifty *native Indian* females, whose deaths occurred in hospital from other casual diseases.

"A long and extensive experience amongst native families in Calcutta, from the highest to the lowest classes, fully satisfied me that the particular affections which you have so ably described and brought to the notice of the profession are of *immense frequency*, and that the plan of treatment which you so ably advocate is the only right one.

I am, Sir, yours truly,

"D. S. STEWART, M. D.,

"Surgeon Hon. E. I. Co.'s Dépôt, Warley."

*Memorandum of the Condition of the Genital Organs in the Bodies of Fifty Native Indian Women, who had Died of various Diseases.* By MADOOSUDUN GOOPTA, S. A. S.

No.	Age	Uterus.	Cervix and Os Uteri.	Ovaries and Fallopian Tubes.
1	46	Natural.....	Natural.....	Fallopian tubes obliterated.
2	50	Small, hard.....	Os rigid and contracted.....	Ovaries shrivelled.
3	35	Natural.....	Os irregular, a tumor on one side	Left ovary much diseased.
4	40	Ditto.....	Healthy.....	Healthy.
5	24	Ditto.....	{ Cervix much inflamed, os ul- } cerated.....	Left ovary enlarged and inflamed.
6	34	Ditto.....	Os and cervix ulcerated.....	Fallopian tubes strictured.
7	45	Ditto.....	Os closed.....	Both ovaries absorbed
8	50	Ditto.....	Fungous tumor.....	Left Fallopian tube obliterated.
9	25	Ditto.....	Os widely open.....	Both ovaries healthy.
10	27	{ Enlarged by re- } cent pregnancy, } inflamed.....	Inflamed.....	Ovaries, &c., inflamed.
11	50	Swollen and soft.....	Os ulcerated.....	Healthy.
12	30	Natural.....	Os scirrhus, deep ulcers.....	Ovaries natural.
13	42	Ditto.....	Cervix swollen.....	One Fallopian tube obliterated.
14	40	Ditto.....	Os ulcerated.....	Natural
15	30	Large and inflamed..	Lacerated ulcers.....	General redness.
16	27	Natural.....	Cervix inflamed, os ulcerated...	Tubes and ovaries adherent.
17	30	Gravid.....	{ Cervix inflamed, os exten- } sively ulcerated.....	General inflammation.
18	28	Natural.....	Cervix swollen, soft.....	Ovaries sound.
19	50	Prolapsed.....	Not unhealthy.....	Natural.
20	30	Natural.....	Cervix ulcerated, os raw and open	Right Fallopian tube obliterated.
21	50	Ditto.....	Os irregular, hard.....	Ovaries absorbed.
22	36	Sloughing.....	Cancerous ulcers.....	Inflamed.
23	27	Natural.....	Cervix and os inflamed.....	Natural.
24	45	Ditto.....	Ditto.....	Ditto.
25	46	Ditto.....	Os obliterated.....	Ovaries absorbed.
26	40	Fatty degeneration.	Cervix and os ulcerated.....	Ditto.
27	25	Natural.....	Tubercles in cervix.....	Ovaries red.
28	30	Ditto.....	Natural.....	Healthy.
29	29	{ Displaced fundus } adherent to rec- } tum.....	{ Cervix long and large, bent } slightly backward.....	Natural.
30	30	Natural.....	{ Ulcers within the canal of the } cervix.....	Ovaries very hard.
31	30	Ditto.....	Healthy.....	Fallopian tubes adherent.
32	40	Ditto.....	Cervix and os congested.....	Healthy.
33	50	Ditto.....	Healthy.....	Hydatids in left ovary.
34	45	Ditto.....	Ulcers in cervix.....	{ Ovaries sound, Fallopian tubes } obliterated.
35	45	Ditto.....	Healthy.....	Scirrhus of right ovary.
36	65	{ Displaced to right } side, hard and } swollen.....	Cervix much ulcerated.....	{ Ovaries congested, Fallopian } tubes obliterated.
37	65	Natural.....	Natural.....	Right ovary atrophied.
38	60	Hard and small....	Cervix hard, os small.....	Ovaries small.
39	50	Natural.....	Cervix swollen and red.....	Healthy.
40	30	Ditto.....	Natural.....	Ditto.
41	19	Ditto.....	Ditto.....	Ditto.
42	50	{ Fibrous tumor of } the fundus....	Ditto.....	Natural.
43	40	Natural.....	Os very red, abraded.....	Natural.
44	35	Ditto.....	Natural.....	Right ovary very hard and horny.
45	28	Long neck.....	Ditto.....	Healthy.
46	42	Natural.....	{ Cervix fissured and hard; os } red, abrasion.....	Left ovary corrugated.
47	32	Large and soft.....	Reddish.....	Natural.
48	13	Natural.....	Natural.....	Undeveloped.
49	26	Ditto.....	Ditto.....	Natural.
50	22	Healthy.....	Extensively ulcerated.....	Inflamed.

D. STEWART, M. D., First-Class Staff Surgeon,  
Late Professor of Midwifery in the Medical College of Calcutta.

CALCUTTA, March, 1855.

This interesting and valuable document from the far East speaks for itself. In fifteen cases out of the fifty there was inflammatory ulceration; and in many the ulceration is noticed as extensive. In various other instances the cervix was also inflamed and indurated. Thus does it bear out all my statements and opinions respecting the frequency of inflammatory and ulcerative lesions of the cervix uteri, in the dead as well as in the living. It is impossible, also, to cast an eye over the list of lesions, uterine and ovarian, which it reveals, and not to feel that the defective nutrition and debility which usually accompany such lesions during life must have exercised a pernicious influence on the individuals in whom they were found, and must have contributed to their death, by depriving them of the power of resisting intercurrent disease. It will be remarked that forty-seven out of the fifty women were aged between nineteen and fifty; that is, were in the period of life when the uterine vitality is the most active.

I am inclined to think, from my own experience, as well as from the statements of Indian and other practitioners, that uterine and ovarian diseases of an inflammatory character, are even more common and more severe in warm climates than in our own. During the whole of my career as a private practitioner, I have constantly had severe cases of uterine ailment under my care from the East and West Indies, and from other tropical regions, and it appears to me that in such climates not only is uterine disease more severe and more intractable to treatment, but that it reacts more speedily and more severely on the general health than with us.

Moreover the patients suffer much more frequently from the complications of other diseases, such as liver disease, intermittent or remittent fever, or dysentery, the diseases of the country. This is no doubt owing to the fact that the system is generally lowered by the uterine malady, and consequently succumbs readily to the climatic influences of a pernicious character by which the patient is surrounded.

Thus tropical practitioners constantly find that females suffering from chronic uterine disease are incurable where they are, and are obliged to send them home, unless they can be treated at some cool mountain sanatorium, such as Ootacamund, in the Madras Presidency. According to my able friend Dr. Scott, now of Penang, who formerly practised there, the great elevation of Ootacamund above the plains gives it quite a temperate European climate, so that uterine sufferers rally nearly as well as they would in England.

Dr. Scott was for several years physician to an obstetric hospital or dispensary for native women at Madras, and during that time he tells me that he saw many hundred cases of uterine inflammation similar to those described in this work, and illustrating all the descriptions of inflammatory and ulcerative disease. Mr. A. Goodall, late superintending surgeon on the Madras Establishment, also tells me (1861) that he can confirm by his own testimony the statements of Dr. Stewart and Dr. Scott, as to the frequency of the various forms of inflammatory and ulcerative disease which I have described among



the native females of India. He has often, he states, had to examine thirty cases of uterine disease in native females in a morning. Dr. Leslie, of Buenos Ayres, and formerly of Rio Janeiro, gives the same evidence with reference to the frequency of these forms of uterine malady among the females of South America.

When European females who have suffered from uterine disease in a tropical climate reach home, they are generally difficult to cure. They are often under the influence of the remains of other diseases—dysentery, fever, liver disturbance, &c. If not, they are frequently in a state of extreme, all but cachectic debility, with but little vital recuperative power.

In the course of this work the intimate connection that exists between the uterus and the large bowel has been too frequently insisted upon, to render the intractability of uterine inflammation to treatment a matter of surprise, when there is, simultaneously, chronic inflammation of the mucous membrane of the large intestine. Again, the existence in the economy of the general morbid taint which reigns in intermittent fever must, and does, interfere with the cure of local disease. I have often been distressed to see all my efforts to remove uterine inflammation in a patient from the tropics unavailing, when a sudden outburst of ague fever has revealed the cause. In both these cases it often becomes absolutely necessary to entirely get rid of the dysenteric irritation, and of the febrile constitution, by general treatment, before the local uterine disease can be successfully grappled with.

When there is extreme cachectic debility, we must often be satisfied to merely palliate the uterine malady, until the general health have been restored, or at least partially restored.

It is such cases as these, more especially, that teach the practitioner to take into his consideration *all* the features of the patient's condition—the general and medical, as well as the local and surgical. He also learns, through them, patience; not to be too sanguine as to early final results, and not to make promises which may not be verified within limits imprudently fixed. In these unfavorable cases I have always found that the best course to pursue is to put the facts clearly before the patient, as they would be put by a physician to his pupils in a clinical lecture, and to promise nothing, unless it be to use in her behalf every possible means which the knowledge of disease gives the well-informed physician.

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
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
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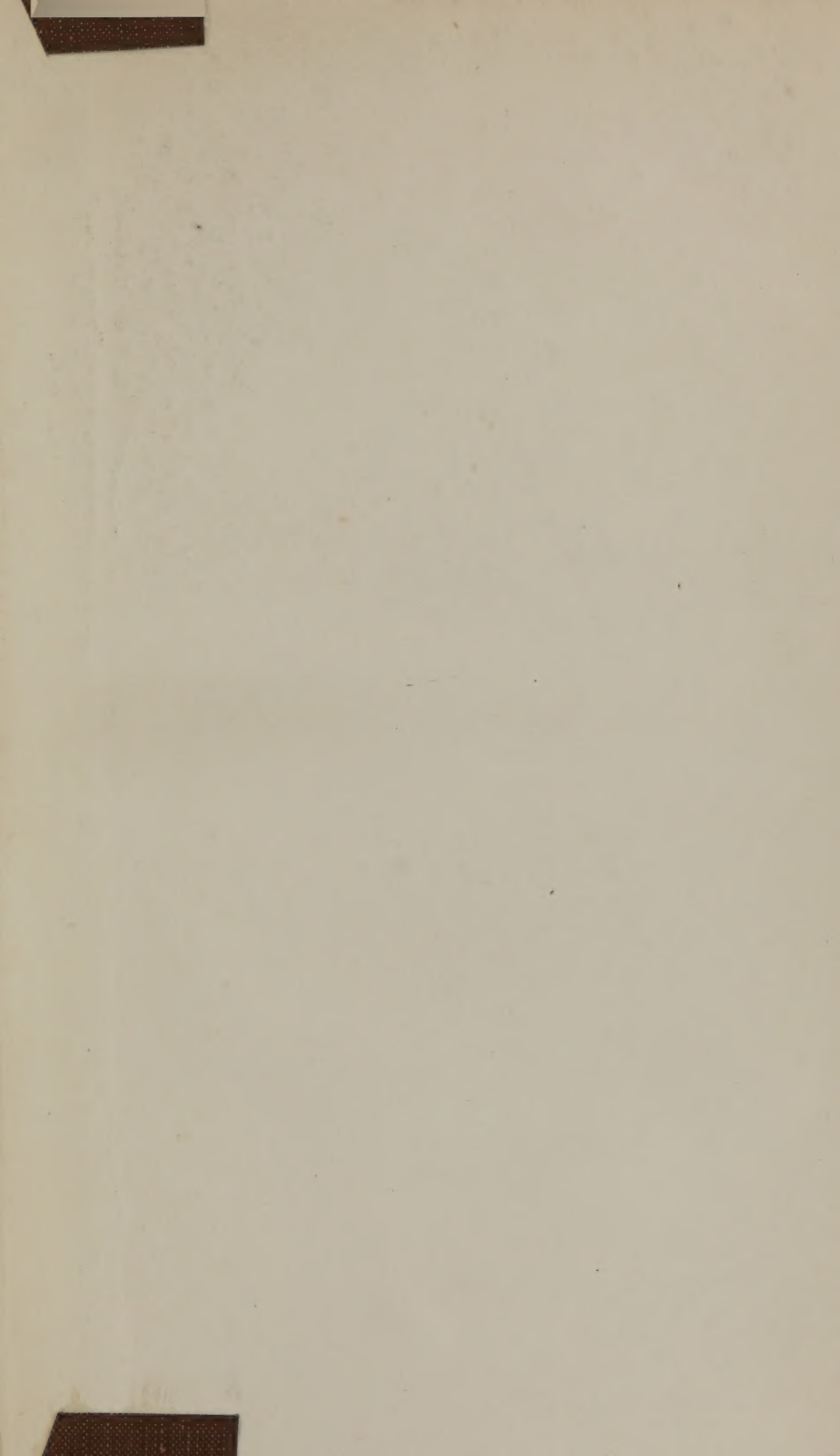
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